File 155:MEDLINE(R) 1966-2003/Aug W3
File 5:Biosis Previews(R) 1969-2003/Aug W3
File 73:EMBASE 1974-2003/Aug W3
File 34:SciSearch(R) Cited Ref Sci 1990-2003/Aug W3
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
File 144:Pascal 1973-2003/Aug W2
File 2:INSPEC 1969-2003/Aug W2
File 6:NTIS 1964-2003/Aug W3
File 8:Ei Compendex(R) 1970-2003/Aug W2
File 99:Wilson Appl. Sci & Tech Abs 1983-2003/Jul
File 65:Inside Conferences 1993-2003/Aug W3
File 94:JICST-EPlus 1985-2003/Aug W3
File 35:Dissertation Abs Online 1861-2003/Jul
File 95:TEME-Technology & Management 1989-2003/Aug W1

Set	Items	Description
S1	63367	(FLUOROPOLYMER? OR CERAMIC OR SILICONE OR GLASS)(10N)(BASE-()MATERIAL? ? OR SUBSTRAT??)
S2	169951	HYDROPHILIC OR POLYETHYLENE()(OXIDE OR GLYCOL) OR ETHYLENE-()OXIDE(2N)COPOLYMER? ?
S3	796145	HYDROPHOBIC OR POLYPROPYLENE()OXIDE OR FLUOROCARBON? ? OR -HYDROCARBON? ?
S4	8610	ELECTROSURGICAL OR ELECTROSURGERY OR ELECTROSYNERES?S
S5	5784734	SURGERY OR SURGICAL
S6	457081	MEDICAL()(DEVICE? ? OR INSTRUMENT? OR IMPLELMENT? ?)
S7	630150	COATING? ?
S8	280	S1 AND S2 AND S3
S9	2818	S7(S)S4:S6
S10	0	S8 AND S9
S11	40	S7(S)S8
S12	0	S9 AND S11
S13	2	S11/2003
S14	40	S11 NOT S12
S15	21	RD (unique items)
S16	38	S11 NOT S13
S17	20	RD (unique items)
S18	**20**	**Sort S17/ALL/PY,D**

18/6/6 (Item 6 from file: 35)
01908918 ORDER NO: AADAA-I3063616
Microscale and nanoscale neural interfaces
Year: 2002

18/6/8 (Item 8 from file: 35)
01813218 ORDER NO: AADAA-I3001126
Biomimetic oligosaccharide and peptide surfactant polymers designed for cardiovascular biomaterials
Year: 2001

18/6/11 (Item 11 from file: 155)
10939021 97291431 PMID: 9145994
Inhibition of initial adhesion of uropathogenic Enterococcus faecalis to solid substrata by an adsorbed biosurfactant layer from Lactobacillus acidophilus.
May 1997

18/6/12 (Item 12 from file: 155)

10824300 97175299 PMID: 9022959
Surface characterization of poly(alpha-hydroxy acid) microspheres prepared by a solvent evaporation/extraction process.
Jan 1997

18/6/17 (Item 17 from file: 34)
02786228 Genuine Article#: MD074 Number of References: 45
Title: HEPARIN-CONTAINING BLOCK-COPOLYMERS .1. SURFACE CHARACTERIZATION (

18/6/18 (Item 18 from file: 95)
00736937 F93110013950
Heparin-containing block copolymers
(Heparinhaltige Blockcopolymere)
1993

18/7,K/3 (Item 3 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

10384644 Genuine Article#: 519ZZ Number of References: 18
Title: Preparation of transparent conductive RuO2 thin film from its precursor solution
Author(s): Hara Y (REPRINT) ; Rengakuji S; Nakamura Y; Shinagawa A
Corporate Source: Toyama Univ,Fac Engn, Dept Syst Engn Mat & Life Sci,3190 Gofuku/Toyama 9308555//Japan/ (REPRINT); Toyama Univ,Fac Engn, Dept Syst Engn Mat & Life Sci,Toyama 9308555//Japan/; Toyama Univ,Ctr Instrumental Anal,Toyama 9308555//Japan/
Journal: ELECTROCHEMISTRY, 2002, V70, N1 (JAN), P13-17
ISSN: 1344-3542 **Publication date: 20020100**
Publisher: ELECTROCHEMICAL SOC JAPAN, 4-8-30, KUDAN MINAMI, CHIYODA-KU, TOKYO, 102-0074, JAPAN
Language: English Document Type: ARTICLE
Abstract: It has been reported that RuO2 has a conductive nature like common metals despite its metal oxide character and has widely been used as a **coating** material for electric resistors etc. However, so far no report concerning the preparation of a transparent film has been found in the literature. We continued the efforts to prepare a transparent RuO2 film and developed a new method different from the conventional sol-gel method by preparing the precursor in a n-butanol-benzene system. To analyze the process of crystallization, the thermal behavior of RuO2, gel formed initially and the gases evolved during heat-treatment of the gel were investigated by TG-DTA-MS. The structure of the thin films after heat-treatment at 100, 250, and 450degreesC was measured by the X-ray diffraction method. n-Butanol and water were observed to evolve at a temperature range of 100-180degreesC beyond their boiling points. Transformation from the gel phase to the crystalline phase occurred at a temperature range of 100-250degreesC without any observation of the heat of crystallization upon DTA analysis. These results suggest the formation of an ordered gel network structure, which seems to arise from arrangement by the interaction among RuO2, precursors having both butoxy (**hydrophobic**) and hydroxy (**hydrophilic**) groups. Furthermore, it was presumed that the RuO2 gel crystallizes through the dehydration and dealcoholization reactions among these RuO2 precursors. The RuO2 thin films with thicknesses of 7.0 and 23.8 nm after heat-treatment at 450degreesC have transmittances of 59.6-75.8%, 36.2-59.0% in the wavelength range 380-780 nm, and electrical resistivities of 9.60 X 10(-4) and 4.15 x

10(-4) Omegacm, respectively. These thin films showed sufficient adhesion to a **glass substrate** .

18/7,K/5 (Item 5 from file: 94)
DIALOG(R)File 94:JICST-EPlus

05469678 JICST ACCESSION NUMBER: 03A0391547 FILE SEGMENT: JICST-E
Hydrophobicity in air and oleophobicity in water of coating **films on** glass substrates **derived from 2-(diethoxyphosphoryl)ethyltriethoxysilane.**
SAWADA TAKASHI (1); MATSUDA ATSUNORI (1); TADANAGA KIYOHARU (1); MINAMI TSUTOMU (1); TATSUMISAGO MASAHIRO (1)
(1) Univ. of Osaka Prefect., Grad. Sch.
Nippon Kagakkai Koen Yokoshu, 2002, VOL.82nd, PAGE.154, FIG.2, REF.1
JOURNAL NUMBER: S0493AAY ISSN NO: 0285-7626
UNIVERSAL DECIMAL CLASSIFICATION: 544.72-14-16
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Short Communication
MEDIA TYPE: Printed Publication
ABSTRACT: 2-(diethoxyphosphoryl)ethyltriethoxysilane, DPTS, has an organic group with **hydrophobic** and **hydrophilic** sites. We have prepared **coating** films of hydrophobicity in air and oleophobicity in water on **glass substrates** using DPTS by the sol-gel method. From the results of contact angle measurement, surface tension measurement and ESCA, hydrophobicity in air and eophobicity in water of the **coating** films should be caused by a rearrangement of the organic group of DPTS. (author abst.)

18/7,K/9 (Item 9 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01775454 ORDER NO: AADAA-I9984434
Polymeric and metallic cardiovascular biomaterials: Phospholipid and silicone surface modification by gamma radiation surface graft polymerization and electropolymerization
Author: Jenkins, Lauri Laurene
Degree: Ph.D.
Year: 2000
Corporate Source/Institution: University of Florida (0070)
Chair: Eugene P. Goldberg
Source: VOLUME 61/08-B OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 4269. 156 PAGES
ISBN: 0-599-91423-8

The objectives of this research were to expand the scientific understanding of hydrophilic phospholipid (PL) surface modifications on silicone and metal substrates via two unique processes: gamma radiation surface graft polymerization and electro-polymerization. This work was a novel study of these two polymerization techniques to produce phospholipid-modified surfaces using a vinyl functionalized phosphorylcholine-containing monomer.

A number of synthetic functionalized PLs have been reported to produce surfaces which might better mimic the structure of natural cell membranes. Unique polymerization methods for a methacryl-functionalized PL monomer were investigated here to prepare homopolymer and copolymers with other vinyl monomers.

The 2-methacryloyloxyethylphosphorylcholine (MPC) monomer studied,

originally developed by Ishihara <italic>et al</italic>., has a structure that is common PLs with long hydrocarbon tails.

Copolymers of MPC have been effective in reducing cell adhesion and protein deposition in blood environments. To expand our knowledge of polymers and surfaces derived from such vinyl functional PLs as MPC, the research reported here involved two new techniques for the surface modification of silicone and stainless steel biomaterials of particular interest for vascular grafts and stents. Surface modification methods explored were gamma radiation surface graft polymerization and electropolymerization.

The first technique, gamma radiation initiated surface graft polymerization, was used produce NVC, MPC-HEMA, MPC-MAA, and MPC-NVP copolymer surfaces on silicone elastomer (polydimethyl siloxane - PDMS). Results of these experiments indicated a significant reduction in contact angle (30 to 50 degree) compared to control silicone substrates.

The second technique was the electrochemical surface polymerization of WC monomer and copolymerization of MPC with silicone oligomers on stainless steel. The goal of copolymerization of WC and a silicone oligomer is based on our view that such copolymer surfaces might combine the biocompatibility of a phospholipid with the elastomeric properties of silicone to produce a novel biomedical surface **coating** . Two silicone oligomers with different chemical structures were used in this study. Methacryoloxy-terminated-polydimethylsiloxane (MAOP) oligomer provides the typical poly(dimethylsiloxane) (PDMS) structure and vinylmethoxysiloxane (VMS) is more **hydrophilic** .

The surfaces produced were characterized by contact angle, XPS and SEM analyses. The MPC surface modifications exhibited a large reduction in contact angle (15°-32° vs. 71°) on stainless steel and (24°-55° vs. ca. 75°) on PDMS and may provide a more lubricious surface with improved non-thrombogenic properties. The novel surface polymerization techniques examined here may allow more facile coating of metal and polymer devices with complex geometries and may provide improved uniformity and adhesion using processes that also may prove to be relatively simple and inexpensive.

18/7,K/10 (Item 10 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05510197 E.I. No: EIP00035089562

Title: Crafting EO polymer films: layer-by-layer

Author: Lindsay, Geoffrey A.; Roberts, M. Joseph; Herman, Warren N.; Chafin, Andrew P.; Hollins, Richard A.; Merwin, Lawrence H.; Stenger-Smith, John D.; Zarras, Peter
Corporate Source: US Navy, China Lake, CA, USA
Conference Title: Proceedings of the 1998 4th International Conference on Organic Nonlinear Optics (ICONO'4) - The 8th IKETANI Conference
Conference Location: Chitose, Jpn Conference Date: 19981012-19981015
E.I. Conference No.: 56369
Source: Molecular Crystals and Liquid Crystals Science and Technology Section B: Nonlinear Optics v 22 n 1-4 1999. p 3-8
Publication Year: 1999
CODEN: MCLOEB ISSN: 1058-7268
Language: English
Document Type: JA; (Journal Article) Treatment: X; (Experimental)
Journal Announcement: 0005W2
Abstract: With the goal of making electro-optic films, two methods of

layer-by-layer deposition were compared: the Langmuir-Blodgett-Kuhn (LBK) technique and the aqueous solution alternating polyelectrolyte deposition (APD) technique. Each method employed a different complementary pair of main-chain (or side-chain and main-chain) chromophoric polymers. For the LBK technique a **hydrophilic - hydrophobic** motif formed the basis for establishing polar order. For the APD technique ionic bonding and hydrogen bonding served the same purpose. Films were prepared by alternately **coating hydrophobic** soda-lime **glass substrates** with the chromophoric polymers at room temperature. In both cases, the films were of high optical clarity and had no observable texture by polarized optical microscopy. Thermal stability of the second harmonic signal generated in each film was measured. The APD film was more stable than the LBK film, in large part due to the difference in glass transition temperatures, but also due to ionic crosslinking in the APD film. (Author abstract) 17 Refs.

18/7,K/13 (Item 13 from file: 73)
DIALOG(R)File 73:EMBASE

07167956 EMBASE No: 1998056461

Studies of structure and local wetting properties on heterogeneous, micropatterned solid surfaces by microinterferometry

Wiegand G.; Jaworek T.; Wegner G.; Sackman E.
G. Wiegand, Physik Department, Biophysics Group, Technische Universitat Munchen, James-Franck-Strasse, D-85748 Garching Germany
Journal of Colloid and Interface Science (J. COLLOID INTERFACE SCI.) (United States) 15 DEC 1997, 196/2 (299-312)
CODEN: JCISA ISSN: 0021-9797
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 26

The microstructure and the local wettability of functionalized patterns is reported. The patterns are formed by the photolithographic structuring of multilayers of hairy rod polymers on **glass** /MgFinf 2/SiOinf 2 **substrates** . By application of quantitative reflection interference contrast microscopy (RICM), the RICM image analysis was improved by accounting for (i) multiple reflections and the finite illumination aperture in stratified systems and (ii) geometrical effects in wedge-shaped systems and by (iii) optimizing the contrast enhancement through adjustment of the MgFinf 2 **coating** . The surface free energy of hairy rod films were determined by analysing the contact angle of partially wetting liquid droplets as a function of the surface tension of the liquid. Periodic lattices of **hydrophobic** domains separated by **hydrophilic** domains were applied to check the theory of Joanny and de Gennes (J. Phys. Chem. 81, 552-562 (1984)) of contact angle hysteresis at periodic arrays of pinning centers. Measurements of the shape of the triple line and the contact angle hysteresis by RICM confirmed the theoretical predictions.

18/7,K/15 (Item 15 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

03225009 Genuine Article#: NN491 Number of References: 40
Title: **CHEMICAL-VAPOR SURFACE MODIFICATION OF POROUS-GLASS WITH FLUOROALKYL-FUNCTIONAL SILANES .1. CHARACTERIZATION OF THE MOLECULAR LAYER**
Author(s): TADA H; NAGAYAMA H
Corporate Source: NIPPON SHEET GLASS CO LTD,CNET RES LAB,1
KAIDOSHITA/ITAMI/HYOGO 664/JAPAN/

Journal: LANGMUIR, 1994, V10, N5 (MAY), P1472-1476
ISSN: 0743-7463
Language: ENGLISH   Document Type: ARTICLE
Abstract: The **hydrophilic** surface of porous **glass substrates** became highly **hydrophobic** (static contact angle, theta(s)(water) = 119.4 +/- 0.7-degrees; theta(s)(n-hexadecane) = 80.7 +/-2.5-degrees) by chemical vapor surface modification (CVSM) with (heptadecafluorodecyl)trichlorosilane (HFTS). Diffuse reflectance Fourier-transformed infrared (FT-IR) spectra Of SiO2 powder used as a model adsorbent indicated that the HFTS molecules are anchored on the surface via condensation between their terminal functional groups and isolated surface Si-OH groups. The quite low reflectance of the pristine porous glass of 0.17 % at the wavelength of 490 nm was only increased to 0.62 % by means of the CVSM treatment, while the fluoroalkylsilane **coating** using a rubbing method raised it up to 4.5 %. The slight red shift (approximately 5 nm) of the wavelength having a minimum reflectance and data of FT-IR attenuated total reflection and X-ray photoelectron spectroscopies suggested that the HFTS molecules form a monolayer along the external and the internal surface, exposing mainly CF3 groups outermost in the CVSM sample. The Cassie-Baxter theory on the composite surface consisting of open area and **hydrophobic** region covered with HFTS was reasonably used to account for the excess increase of the contact angle over that in the smooth surface.

18/7,K/20 (Item 20 from file: 6)
DIALOG(R)File 6:NTIS

1604239 NTIS Accession Number: N91-28384/6

Ion Beam Sputtered Coatings of Bioglass
(M.S. Thesis Final Report)
Hench, L. L. ; Wilson, J. ; Ruzakowski, P. H. A.
Florida Univ., Gainesville.
Corp. Source Codes: 009327000; FU386635
Sponsor: National Aeronautics and Space Administration, Washington, DC.
cl Mar 82 227p
Languages: English
Journal Announcement: GRAI9123; STAR2920
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NTIS Prices: PC A11/MF A03
Country of Publication: United States
Contract No.: NSG-3273

The ion beam sputtering technique available at the NASA-Lewis was used to apply **coatings** of bioglass to **ceramic**, metallic, and polymeric **substrates.** Experiments in vivo and in vitro described investigate these **coatings**. Some degree of substrate masking was obtained in all samples although stability and reactivity equivalent to bulk bioglass was not observed in all coated samples. Some degree of stability was seen in all coated samples that were reacted in vitro. Both metallic and **ceramic substrates** coated in this manner failed to show significantly improved **coatings** overthose obtained with existing techniques. Implantation of the coated **ceramic substrate** samples in bone gave no definite bonding as seen with bulk **glass**; however, partial and patchy bonding was seen. Polymeric **substrates** in these studies showed promise of success. The **coatings** applied were sufficient to mask the underlying reactive test surface and tissue adhesion of collagen to bioglass

was seen. **Hydrophilic, hydrophobic**, charged, and uncharged polymeric surfaces were successfully coated.

File 31:World Surface Coatings Abs 1976-2003/Jul
File 96:FLUIDEX 1972-2003/Aug
File 323:RAPRA Rubber & Plastics 1972-2003/Aug
File 315:ChemEng & Biotec Abs 1970-2003/Jul

Set	Items	Description
S1	5234	(FLUOROPOLYMER? OR CERAMIC OR SILICONE OR GLASS)(10N)(BASE-()MATERIAL? ? OR SUBSTRAT??)
S2	20985	HYDROPHILIC OR POLYETHYLENE()(OXIDE OR GLYCOL) OR ETHYLENE-()OXIDE(2N)COPOLYMER? ?
S3	44418	HYDROPHOBIC OR POLYPROPYLENE()OXIDE OR FLUOROCARBON? ? OR -HYDROCARBON? ?
S4	9	ELECTROSURGICAL OR ELECTROSURGERY OR ELECTROSYNERES?S
S5	13212	SURGERY OR SURGICAL
S6	1678	MEDICAL()(DEVICE? ? OR INSTRUMENT? OR IMPLELMENT? ?)
S7	175867	COATING? ?
S8	25	S1(S)S2(S)S3
S9	4	S7(S)S8
S10	**4**	**RD (unique items)**
S11	0	S8 AND S4:S6
S12	21	S8 NOT S9
S13	21	RD (unique items)
S14	1	S13/2003
S15	20	S13 NOT S14
S16	**20**	**Sort S15/ALL/PD,D**

10/3,AB,K/1 (Item 1 from file: 31)
DIALOG(R)File 31:World Surface Coatings Abs

00476681 WSCA ABSTRACT NUMBER: 94-04294 WSCA ID NUMBER: 384294
Silicone release coated substrate.
PATENT ASSIGNEE: GLATFELTER CO;
PATENT INFORMATION: United States Patent : Off. Gaz. 1993, Vol 1152 No 3, 1777.
PATENT (NUMBER,DATE): US 5229212 19930000
PUBLICATION YEAR: 1993
JOURNAL ANNOUNCEMENT: 9406 WSCA UPDATE CODE: 9404
DOCUMENT TYPE: Patent LANGUAGE: English
SECTION (CODE,HEADING): 64 Paints, etc. for other Specific Uses
SECTION CODE CROSS-REFERENCE: 08; 24;
ABSTRACT: The silicone release **coating** is characterised by increased silicone hold out. It comprises 10-98 wt. % of at least one cured silicone release **coating** and 0.01-30 wt. % of at least one polymeric thickening agent promoting **silicone** hold out on the **substrate** . The thickening agent is (partially) soluble in water at room temp. and is a substantially linear aliphatic polymer having weight-average MW at least 100,000, selected from polyacrylamides, polypropylene oxides, polyethylene oxides and **polyethylene oxide / polypropylene oxide copolymers** .

10/3,AB,K/2 (Item 2 from file: 31)
DIALOG(R)File 31:World Surface Coatings Abs

00430073 WSCA ABSTRACT NUMBER: 89-07620 WSCA ID NUMBER: 287620
Hydrophilic resin film-forming composition for glass, etc.
PATENT ASSIGNEE: NIPPON OILS & FATS CO;
PATENT INFORMATION: Japanese Unexamined Patent , 10 pp: Jap. Pat. Abs (Unexamined) 1989, Vol 89 No 6, Gp G, 14.

PATENT (NUMBER,DATE): JP 63314278 19890000
PUBLICATION YEAR: 1989
JOURNAL ANNOUNCEMENT: 8910 WSCA UPDATE CODE: 8908
DOCUMENT TYPE: Patent LANGUAGE: Japanese
SECTION (CODE,HEADING): 64 Paints, etc. for other Specific Uses
ABSTRACT: The compsn. provides protective anti-misting **coatings** on high MW materials, metal, **glass substrates** , etc. It comprises a block copolymer having **hydrophilic** and **hydrophobic** blocks, together with a water-absorbing polymer. The **hydrophilic** blocks are formed from (meth)acrylic acid, itaconic acid, their alkali metal, ammonium or amine salts, styrenesulphonic acid etc, and the **hydrophobic** blocks from (m)ethyl (meth)acrylate, etc.

10/3,AB,K/3 (Item 1 from file: 323)
DIALOG(R)File 323:RAPRA Rubber & Plastics

00571257
TITLE: COMPOSITE MATERIAL AND PRODUCTION METHOD THEREFOR
AUTHOR(S): Yoshida M; Okajima S; Fukui M
CORPORATE SOURCE: Asahi Kasei Kogyo KK
PATENT NUMBER: WO 9512706 A1
PATENT DATE: 19950511
PATENT COUNTRY/KIND CODE: WO A1
APPLICATION NUMBER: WO 93JP1611
APPLICATION DATE: 19931105
DESIGNATED STATES: GB; KR; US
JOURNAL ANNOUNCEMENT: 199602 RAPRA UPDATE: 199602
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
SUBFILE: (R) RAPRA
ABSTRACT: A sheet-like composite material can be produced by subjecting a fibrous substrate to **hydrophobic** treatment, impregnating or **coating** the substrate with a solution of elastic polymer material to which a **hydrophilic silicone** is added, and wet coagulating the **substrate** . It is extremely soft, has extremely high wear resistance or high peel-off strength and prevents adhesion between the fibres of the substrate and the elastic polymer material.

10/3,AB,K/4 (Item 2 from file: 323)
DIALOG(R)File 323:RAPRA Rubber & Plastics

00536030
TITLE: DESIGN OF BLOOD COMPATIBLE POLYMERS AND POLYMER SURFACES
AUTHOR(S): Feijen J
CORPORATE SOURCE: Twente,University
SOURCE: Macromolecular Reports; A31, Nos.6 & 7, Oct.1994, p.1153-60
ISSN: 1060-1325
JOURNAL ANNOUNCEMENT: 199503 RAPRA UPDATE: 199503
DOCUMENT TYPE: Journal Article
LANGUAGE: English
SUBFILE: (R) RAPRA
ABSTRACT: A general summary (without references) of ways to make surfaces blood compatible is followed by a more detailed description (with references) of ways of preparing heparinised surfaces. These are (A) **coating** of polymer, e.g. PTFE or PU, with a conjugate of albumin and heparin, (B) preparation of block copolymers consisting of a

hydrophobic block (PS), a **hydrophilic** block (PEO) and heparin. These may be coated onto **substrates** , e.g. **glass** , PS, polydimethylsiloxane and Biomer, and (C) heparinisation of **hydrophilic** surfaces, e.g. cellulose membranes, via a single reaction step involving exposure of the membranes to a solution of heparin activated by carbonyldiimidazole. Some performance data are given. 9 refs. (Presented at UK Macro Group/ACS Div. Polym. Chem., Macromolecules '92 3rd Euro-American Conf. on Functional Polymers & Biopolymers, Univ. of Kent, UK, 7th-11th Sept. 1992).

16/8/1 (Item 1 from file: 96)
DIALOG(R)File 96:(c) 2003 Elsevier Science Ltd. All rts. reserv.
00416945 FLUIDEX NO: 0486319
Fabrication and morphology of mixed copper tetra-tert-butyl phthalocyanine/arachidic acid Langmuir-Blodgett films
Journal of the Chinese Institute of Chemical Engineers, 33/6 (573-580), 2002
DESCRIPTORS: FILM

16/8/2 (Item 2 from file: 315)
DIALOG(R)File 315:(c) 2003 DECHEMA. All rts. reserv.
500317
Metabolic differences between attached and free-living marine bacteria: inadequacy of liquid cultures for describing in situ bacterial activity
PUBLICATION DATE: 2001 (20010000)
DESCRIPTORS: Marinobacter ; culture medium ; biodegradation ; immobilized cell ; fermentation
DESCRIPTORS: biologischer Abbau
SECTION: Fermentation Technology (57)
DECHEMA CLASSIFICATION: Bacteria, cyanobacteria (Prokaryota) (9141); Experimental investigations (9423); Biochemical and microbiological processes(5830)

16/8/3 (Item 3 from file: 31)
DIALOG(R)File 31:(c) 2003 Paint Research Assn. All rts. reserv.
00531091 WSCA ABSTRACT NUMBER: 00-00428 WSCA ID NUMBER: 500428
Anti-fogging coats.
PUBLICATION YEAR: 1999
DESCRIPTORS: Anti-misting Coatings; Plastics; Glass
IDENTIFIERS: Anti-misting Coatings-- polymers, hydrophobic segments substrates side/hydrophilic segments; Plastics-- anti-misting coatings, polymers, hydrophilic segments/hydrophobic segments; Glass-- anti-misting coatings, polymers, hydrophilic segments/hydrophobic segments
ADDITIONAL TERMS (IDENTIFIERS): transparent coating; plastics substrate; glass substrate; adhesion; hydrophobicity; hydrophilicity; interface; anti-misting coating

16/8/4 (Item 4 from file: 31)
DIALOG(R)File 31:(c) 2003 Paint Research Assn. All rts. reserv.
00530264 WSCA ABSTRACT NUMBER: 99-07955 WSCA ID NUMBER: 487955
Non-migrating hydrophilic silicone **finish for** hydrophobic substrates **such as non-wovens.**
PUBLICATION YEAR: 1998
DESCRIPTORS: Permeability; Hydrophilicity; Siloxanes; Polyethers; Hydrophobicity

CHEMICAL NAMES: siloxane; silicone; polyether; polydimethylsiloxane
IDENTIFIERS: Permeability-- water, liquids (aq), porous substrates, improvement; Hydrophilicity-- coatings, for porous substrates (hydrophobic), permeability improvement; Siloxanes-- polyethers groups, coatings, hydrophilicity; Polyethers-- groups, siloxanes, coatings, hydrophilicity; Hydrophobicity-- porous substrates, permeability to aq, improvement
ADDITIONAL TERMS (IDENTIFIERS): permeability; hydrophilicity

16/8/6 (Item 6 from file: 315)
DIALOG(R)File 315:(c) 2003 DECHEMA. All rts. reserv.
193784
Facilitated mass transfer in a packed-bed immobilized-cell reactor by using an organic solvent as substrate reservoir.
PUBLICATION DATE: 1987 (870000)
DESCRIPTORS: English; packed-bed reactor; mass transfer; immobilized-cell reactor
SECTION: Diffusional Operations (Contacts & Reactions) (08)
DECHEMA CLASSIFICATION: MIXING (55)

16/8/7 (Item 7 from file: 323)
DIALOG(R)File 323: (c) 2003 RAPRA Technology Ltd. All rts. reserv.
00846022
TITLE: AMPHIPHILIC BLOCK COPOLYMERS WITH PENDENT SUGAR AS HYDROPHILIC SEGMENTS AND THEIR SURFACE PROPERTIES
DESCRIPTORS: AMPHIPHILIC; BLOCK POLYMERISATION; BLOCK POLYMERIZATION; CAST; CONTACT ANGLE; DATA; FILM; FILMS; FREE RADICAL POLYMERISATION; GRAPH; HYDROPHILIC; HYDROPHILICITY; INSTITUTION; ORIENTATION; PENDANT GROUP; PENDENT GROUP; PLASTIC; POLYMERISATION; POLYMERIZATION; PROPERTIES; RADICAL POLYMERISATION; RADICAL POLYMERIZATION; SACCHARIDE COPOLYMER; STATIC; STYRENE COPOLYMER; SUGAR COPOLYMER; SURFACE PROPERTIES; SYNTHESIS; TABLES; TECHNICAL; THERMOPLASTIC; TIME DEPENDENCE

16/8/8 (Item 8 from file: 323)
DIALOG(R)File 323: (c) 2003 RAPRA Technology Ltd. All rts. reserv.
00780690
TITLE: SURFACE ANALYSIS OF POLYMERIC SUBSTRATES: EFFECTS OF MICROLITHOGRAPHIC AND CELL CULTURE PROCESSES
DESCRIPTORS: BIOCOMPATIBILITY; BIOCOMPATIBLE; CELL ADHESION; CONTACT ANGLE; DATA; INSTITUTION; LITHOGRAPHY; MICROLITHOGRAPHY; PHOTORESIST; PLASTIC; PMMA; POLYMETHYL METHACRYLATE; PROTEIN ADSORPTION; SURFACE TREATMENT; TECHNICAL; THERMOPLASTIC

16/8/11 (Item 11 from file: 323)
DIALOG(R)File 323: (c) 2003 RAPRA Technology Ltd. All rts. reserv.
00615690
TITLE: FULLERENE C60 AND AMPHIPHILIC C60 SUCCINIC ACID DERIVATIVE LANGMUIR-BLODGETT FILMS AS MODIFIERS OF THE WETTING PROPERTIES OF HYDROPHOBIC **(PETP) AND** HYDROPHILIC **(** GLASS **)** SUBSTRATES
DESCRIPTORS: ABSORPTION; AMPHIPHILIC; DATA; FILM; FILMS; GRAPH; HYDROPHILIC ; HYDROPHILICITY; HYDROPHOBIC; HYDROPHOBICITY; INTERFACE; LANGMUIR-BLODGETT FILM; MONOLAYER; PETP; PLASTIC; POLYETHYLENE TEREPHTHALATE; PROPERTIES; SATURATED POLYESTER; SHEET; SURFACE PROPERTIES; TABLES; TECHNICAL; THERMOPLASTIC; WETTING; PET

16/8/12 (Item 12 from file: 323)

DIALOG(R)File 323: (c) 2003 RAPRA Technology Ltd. All rts. reserv.
00602784
TITLE: LANGMUIR-BLODGETT-KUHN(LBK) MULTILAYER ASSEMBLIES OF NLO ACTIVE AMPHIPHILES AND IONENE POLYMERS: IMPORTANCE OF COMPLEMENTARY CHARGES
DESCRIPTORS: AMPHIPHILIC; APPLICATION; DATA; DEPOSITION; ELECTROSTATIC INTERACTION; FILM; GRAPH; HYDROPHILIC; HYDROPHOBIC; IONENE POLYMER; IONOMER; LANGMUIR-BLODGETT-KUHN FILM; MULTILAYER FILM; NON-LINEAR; NON-LINEAR OPTICAL; OPTICAL PROPERTIES; PLASTIC; POLYELECTROLYTE; POLYIONENE; PROPERTIES; SURFACE PLASMON SPECTROSCOPY; TABLES; TECHNICAL ; THERMOPLASTIC; THICKNESS; THIN FILM; VAN DER WAALS ATTRACTION; X-RAY DIFFRACTION

16/8/13 (Item 13 from file: 323)
DIALOG(R)File 323: (c) 2003 RAPRA Technology Ltd. All rts. reserv.
00576572
TITLE: LAYER-BY-LAYER MODIFICATION OF SURFACES THROUGH THE USE OF SELF-ASSEMBLED MONOLAYERS OF POLYIONS
DESCRIPTORS: ADHESION; ADSORPTION; AIR DRYING; ANALYSIS; APPLICATION; AQUEOUS SOLUTION; BILAYER; COATED GLASS; COATING; COMPANY; CONFERENCE; CONTACT ANGLE; DATA; DEPOSITION; DILUTE SOLUTION; DIPPING; DROPLET; DRYING; FILM; GAS-PHASE; GRAPH; HYDROLYSIS; HYDROPHILIC; HYDROPHOBIC; INSTITUTION; INTERLAYER; INTERPENETRATION; LAYER; MONOLAYER; MULTI-LAYER; MULTILAYER; PH; PLASTIC; POLYACRYLIC ACID; POLYALLYLAMINE; POLYANILINE; POLYANION; POLYCATION; POLYELECTROLYTE; POLYION; POLYMETHACRYLIC ACID; POLYTHIOPHENE ACETIC ACID; PROCESSING; RINSING; SELF-ASSEMBLY; SOLUTION; SOLVENT; SONICATION; SUBSTRATE; SURFACE MODIFICATION; SURFACE PROPERTIES; SURFACE TREATMENT; TECHNICAL; THERMOPLASTIC; THIN FILM; WETTABILITY; WETTING

16/8/14 (Item 14 from file: 31)
DIALOG(R)File 31:(c) 2003 Paint Research Assn. All rts. reserv.
00559376 WSCA ABSTRACT NUMBER: 03-00543 WSCA ID NUMBER: 560543
Adhesion forces between glass and silicon surfaces in air studied by atomic force microscopy (AFM): effects of relative humidity, particle size, roughness and surface treatment.
2002
DESCRIPTORS: Microscopy; Adhesion; Hydrophilicity; Hydrophobicity
CHEMICAL NAMES: hexamethyldisilazane; silazane
IDENTIFIERS: Microscopy-- atomic force, adhesion, glass/silicon/hydrophilicity etc; Adhesion-- microscopy (atomic force), glass/silicon/hydrophilicity etc; Hydrophilicity-- surfaces, microscopy (atomic force) adhesion; Hydrophobicity-- surfaces, microscopy (atomic force) adhesion
ADDITIONAL TERMS (IDENTIFIERS): glass substrate; hydrophobicity

16/8/15 (Item 15 from file: 323)
DIALOG(R)File 323: (c) 2003 RAPRA Technology Ltd. All rts. reserv.
00553731
TITLE: X-RAY PHOTOELECTRON SPECTROSCOPY(XPS) STUDY OF LAYER-BY-LAYER DEPOSITED POLYPYRROLE(PPY) THIN FILMS
DESCRIPTORS: ADSORPTION; ANALYSIS; CHEMICAL SHIFT; CONTINUOUS; DATA; DEPOSITION; FILM; GRAPH; GRAVIMETRIC ANALYSIS; GRAVIMETRY; HYDROPHILIC; HYDROPHOBIC; MECHANISM; NUCLEATION; PLASTIC; POLYPYRROLE; PROPERTIES; SCANNING ELECTRON MICROSCOPY; SEM; SPUTTERING; TABLES; TECHNICAL; THERMOPLASTIC; THERMOSET; THICKNESS; THIN FILM; X-RAY PHOTOELECTRON SPECTROSCOPY

16/8/16 (Item 16 from file: 31)
DIALOG(R)File 31:(c) 2003 Paint Research Assn. All rts. reserv.
00550759 WSCA ABSTRACT NUMBER: 02-00606 WSCA ID NUMBER: 540606
Spreading dynamics of liquids and surfactant solutions on partially wettable hydrophobic surfaces.
2001
DESCRIPTORS: Spreading; Drops; Surfactants, Non-ionic
CHEMICAL NAMES: chlorosilane; polyether; water; ethanol; polyethylene glycol; silane; ethylene glycol; glycerol
IDENTIFIERS: Spreading-- drops, dynamics/factors; Drops-- spreading, dynamics/factors; Surfactants, Non-ionic-- solutions, drops spreading dynamics
ADDITIONAL TERMS (IDENTIFIERS): glass substrate; rate of spreading

16/8/17 (Item 17 from file: 31)
DIALOG(R)File 31:(c) 2003 Paint Research Assn. All rts. reserv.
00547509 WSCA ABSTRACT NUMBER: 01-06424 WSCA ID NUMBER: 526424
Effects of surface roughness and humidity on the adhesion hysteresis of polydimethylsiloxane measured by an adhesion testing device.
1999
DESCRIPTORS: Adhesion; Siloxanes; Roughness; Humidity
COMPANY NAMES: Dow Corning
BRAND/PRODUCT NAMES: Sylgard 184
CHEMICAL NAMES: siloxane; polysiloxane; ammonium; polydimethylsiloxane; dimethyldihexylammonium bromide
IDENTIFIERS: Adhesion-- siloxanes, hysteresis, substrates roughness/humidity; Siloxanes-- adhesion, hysteresis, substrates roughness/humidity; Roughness-- substrates, adhesion hysteresis; Humidity-- adhesion, hysteresis
ADDITIONAL TERMS (IDENTIFIERS): glass substrate; mica substrate; hydrophilicity; hydrophobicity

16/8/18 (Item 18 from file: 323)
DIALOG(R)File 323: (c) 2003 RAPRA Technology Ltd. All rts. reserv.
00497093
TITLE: HEPARIN-CONTAINING BLOCK COPOLYMERS. II. IN VITRO AND EX VIVO BLOOD COMPATIBILITY
DESCRIPTORS: ADHESION; ADSORPTION; APPLICATION; BIOACTIVITY; BIOCOMPATIBILITY; BLOCK COPOLYMER; BLOOD COMPATIBILITY; CHARACTERISATION; COATING; DATA; ETHYLENE OXIDE COPOLYMER; EX-VIVO; GRAPH; HEPARIN COPOLYMER; HYDROPHILIC; HYDROPHOBIC; IN-VITRO; MEDICAL APPLICATION; MODEL; OCCLUSION; PLASTIC; PLATELET; SPACER; STYRENE COPOLYMER; TABLES; TECHNICAL; THERMOPLASTIC; THROMBOGENICITY; CHARACTERIZATION

16/8/19 (Item 19 from file: 323)
DIALOG(R)File 323: (c) 2003 RAPRA Technology Ltd. All rts. reserv.
00496249
TITLE: HEPARIN-CONTAINING BLOCK COPOLYMERS. I. SURFACE CHARACTERISATION
TRADE NAMES: BIOMER
DESCRIPTORS: BIOACTIVITY; BIOMATERIAL; BLOCK COPOLYMER; CHARACTERISATION; CHEMICAL ANALYSIS; COATED; COMPANY; CONTACT ANGLE; DATA; EQUATION; ETHYLENE OXIDE COPOLYMER; GRAPH; HEPARIN COPOLYMER; HYDROPHILIC; HYDROPHOBIC; INSTITUTION; MEASUREMENT; OPTICAL PROPERTIES; PLASTIC; POLYDIMETHYL SILOXANE; POLYSTYRENE; PS; SPACER; STYRENE COPOLYMER;

SUBSTRATE; SURFACE PROPERTIES; SYNTHESIS; TABLES; TECHNICAL; TEM; THEORY; THERMOPLASTIC; TRANSMISSION ELECTRON MICROSCOPY; X-RAY PHOTOELECTRON SPECTROSCOPY; CHARACTERIZATION

16/7,K/3 (Item 3 from file: 31)
DIALOG(R)File 31:World Surface Coatings Abs

00531091 WSCA ABSTRACT NUMBER: 00-00428 WSCA ID NUMBER: 500428
Anti-fogging coats.
PATENT ASSIGNEE: NIPPON OILS & FATS CO;
PATENT INFORMATION: Japanese Unexamined Patent , 17 pp: Jap. Pat. Abs (Unexamined) 1999, Vol 99 No 17, Part 1, Gp G, 411.
PATENT (NUMBER,DATE): JP 11043614 19990000
PUBLICATION YEAR: 1999
ABSTRACT: The anti-fogging coats are easily formed, transparent, and adhere well to **substrates** such as **glass** and plastics mouldings, lenses and mirrors. The coat consists of a polymer in which a **hydrophobic** polymer segment is located on the substrate material side and a **hydrophilic** polymer segment bonds to the **hydrophobic** segment via an organic peroxide bonding group.

16/7,K/5 (Item 5 from file: 96)
DIALOG(R)File 96:FLUIDEX

00338047 FLUIDEX NO: 0407431
Langmuir-Blodgett films composed of hydrophilic and hydrophobic moiety substituted phthalocyanines
AUTHOR(S): Lee S.; Fukuda K.; Anzai J.
Materials Science and Engineering C, 6/1 (41-45), 1998
ISSN: 0928-4931
COUNTRY OF PUBLICATION: Switzerland
PUBLISHER ITEM IDENTIFIER: S0928493198000307
DOCUMENT TYPE: Journal; Article
RECORD TYPE: ABSTRACT
LANGUAGES: English SUMMARY LANGUAGES: English
The monolayer assemblies of commercially available copper phthalocyanine (Pc) analogs, which are symmetrically substituted by the **hydrophobic** (cumylphenoxy or butoxy) moieties, can be constructed at the air/water interface by mixing with **hydrophilic** copper tetrakis (dimethylaminoethoxy) phthalocyanine (tdaCuPc). The mixed monolayers composed of commercially available copper Pc analog and tdaCuPc as a support are deposited by Langmuir-Blodgett (LB) method onto a **glass** plate and a quartz **substrate** bearing a gold-interdigitated electrode pattern. The conductivities of the LB films are increased by thermal excitation and by exposure to an acceptor gas such as nitrogen dioxide under a dry-air atmosphere.

16/7,K/10 (Item 10 from file: 323)
DIALOG(R)File 323:RAPRA Rubber & Plastics

00652504
TITLE: EVALUATION OF BIOLOGICAL RESPONSES TO POLYMERIC BIOMATERIALS BY RT-PCR ANALYSIS. II. STUDY OF HSP 70 mRNA EXPRESSION
AUTHOR(S): Kato S; Akagi T; Kishida A; Sugimura K; Akashi M
CORPORATE SOURCE: Kagoshima,University
SOURCE: Journal of Biomaterials Science : Polymer Edition; 8, No.10, 1997,

p.809-14
JOURNAL ANNOUNCEMENT: 199712 RAPRA UPDATE: 199724
DOCUMENT TYPE: Journal Article
LANGUAGE: English
SUBFILE: (R) RAPRA
ABSTRACT: In order to investigate how cells recognise biomaterials, mRNA expressed in attached HeLa S3 cells on various substrates is evaluated. As culture **substrates**, cellulose, EVOH, nylon, tissue culture PS (TCPS), HDPE, **silicone** rubber, and tetrafluoroethylene-hexafluoropropylene copolymer (6F) are used. HeLa S3 cells are cultured on these substrates for 24 hrs. The expressed HSP 70s MRNA is then isolated and detected using the RT-PCR method. As a result, the expression of HSP 70B MRNA is largely induced in cells that adhere to **hydrophilic** surfaces. On the other hand, on **hydrophobic** surfaces, the HSP 70B MRNA expression is low. It is concluded that HSP 70B MRNA expression is sensitive to differences in the hydrophilicity-hydrophobicity of the substrates. 21 refs.

16/7,K/20 (Item 20 from file: 323)
DIALOG(R)File 323:RAPRA Rubber & Plastics

00211733
TITLE: KINETICS OF CELL ADHESION TO A HYDROPHILIC-HYDROPHOBIC COPOLYMER MODEL SYSTEM
AUTHOR(S): Rosen J J; Schway M B
SOURCE: Organic Coatings and Plastics Chemistry Preprints; Vol.40, 1st/6th April 1979, p.636-41
JOURNAL ANNOUNCEMENT: 198207 RAPRA UPDATE: 198201
DOCUMENT TYPE: Journal Article
LANGUAGE: English
ABSTRACT: The role of **hydrophilic** - **hydrophobic** interactions in the processes of cell attachment and growth was investigated using materials models based on polymers and copolymers of 2-hydroxyethyl methacrylate and ethyl methacrylate. The polymers were solution cast onto **glass** and used as **substrates** to measure the kinetics of cell adhesion for mouse fibroblasts and their relative ability to support long-term growth. 11 refs.

```
File  98:General Sci Abs/Full-Text 1984-2003/Jul
File   9:Business & Industry(R) Jul/1994-2003/Aug 20
File  16:Gale Group PROMT(R) 1990-2003/Aug 20
File 160:Gale Group PROMT(R) 1972-1989
File 148:Gale Group Trade & Industry DB 1976-2003/Aug 20
File 621:Gale Group New Prod.Annou.(R) 1985-2003/Aug 20
File 149:TGG Health&Wellness DB(SM) 1976-2003/Aug W1
File 636:Gale Group Newsletter DB(TM) 1987-2003/Aug 20
File 441:ESPICOM Pharm&Med DEVICE NEWS 2003/Aug W3
File  20:Dialog Global Reporter 1997-2003/Aug 21
File 444:New England Journal of Med. 1985-2003/Aug W4
File 369:New Scientist 1994-2003/Aug W2
File 370:Science 1996-1999/Jul W3
File 624:McGraw-Hill Publications 1985-2003/Aug 20
Set     Items   Description
S1      13262   (FLUOROPOLYMER? OR CERAMIC OR SILICONE OR GLASS)(10N)(BASE-
             ()MATERIAL? ? OR SUBSTRAT??)
S2      14407   HYDROPHILIC OR POLYETHYLENE()(OXIDE OR GLYCOL) OR ETHYLENE-
             ()OXIDE(2N)COPOLYMER? ?
S3     159481   HYDROPHOBIC OR POLYPROPYLENE()OXIDE OR FLUOROCARBON? ? OR -
             HYDROCARBON? ?
S4       4340   ELECTROSURGICAL OR ELECTROSURGERY OR ELECTROSYNERES?S
S5     768348   SURGERY OR SURGICAL
S6     274966   MEDICAL()(DEVICE? ? OR INSTRUMENT? OR IMPLELMENT? ?)
S7     306154   COATING? ?
S8         15   S1(S)S2(S)S3
S9          5   S8 (S)S7
S10         4   RD (unique items)
S11        10   S8 NOT S9
S12         2   S5:S7 AND S11 [not relevant]
S13         8   S11 NOT S12
S14         0   S13/2003
S15         8   S13
S16         8   RD (unique items)
```

10/3,AB,K/3   (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

05202955   SUPPLIER NUMBER: 10803261   (USE FORMAT 7 OR 9 FOR FULL TEXT)
Powder coatings share program with water-bornes and higher-solids. (18th Water-Borne, Higher-Solids and Powder coatings Symposium, New Orleans)
Modern Paint and Coatings, v81, n5, p53(4)
May, 1991
ISSN: 0098-7786   LANGUAGE: ENGLISH   RECORD TYPE: FULLTEXT
WORD COUNT: 3854   LINE COUNT: 00327

... Stoffer of the University of Missouri-Rolla presented a paper on templating of plastics for **coatings** . Polymethyl methacrylate (PMMA) samples were prepared by hot pressing PMMA sheets between either **glass** plates (high surface energy **substrate**) or Teflon sheets (low surface energy substrate) to give surfaces that are modified to be either **hydrophilic** or **hydrophobic** . The hot pressing temperature of 120' C was maintained above PMMA's glass transition temperature...
...angle measurement. Additional information was obtained with adhesion testing of both solvent and water-borne **coatings** to PMMA substrates. Waterbased paint adhered to the more **hydrophilic** PMMA surface, and solvent-based paint adhered to the more **hydrophobic** surface...

10/3,AB,K/4 (Item 1 from file: 370)
DIALOG(R)File 370:Science

00508518
Liquid Morphologies on Structured Surfaces: From Microchannels to Microchips
Gau, Hartmut; Herminghaus, Stephan; Lenz, Peter; Lipowsky, Reinhard
H. Gau and S. Herminghaus, Max-Planck-Institute (MPI) of Colloids and Interfaces, Rudower Chaussee 5, D-12489, Berlin-Adlershof, Germany. P. Lenz and R. Lipowsky, MPI of Colloids and Interfaces, Kantstrasse 55, D-14513 Teltow-Seehof, Germany.
Science Vol. 283 5398 pp. 46
Publication Date: 1-01-1999 (990101) Publication Year: 1999
Document Type: Journal ISSN: 0036-8075
Language: English
Section Heading: Reports
Word Count: 2583
Abstract: Liquid microchannels on structured surfaces are built up using a wettability pattern consisting of **hydrophilic** stripes on a **hydrophobic** substrate. These channels undergo a shape instability at a certain amount of adsorbed volume, from a homogeneous state with a spatially constant cross section to a state with a single bulge. This instability is quite different from the classical Rayleigh Plateau instability and represents a bifurcation between two different morphologies of constant mean curvature. The bulge state can be used to construct channel networks that could be used as fluid microchips or microreactors.
...Text: with a high wettability contrast for water. In order to obtain stripes that are as **hydrophilic** as possible, we generated the wettable regions by thermal vapor deposition of MgF.inf(2) onto a **hydrophobic** **silicone** rubber or a thiolated gold **substrate** through appropriate masks. Both **substrates** exhibited the same hydrophobicity, as measured by the corresponding contact angles. The masks consisted of...
...arrays of parallel stripes with a width of a few tens of micrometers, separated by **hydrophobic** stripes of the same width. The thickness of the MgF.inf(2) layer was typically...
...the temperature 5.Deg.C below the dew point, the water condenses on the wettable **hydrophilic** regions, producing liquid microchannels...
...If one deposits a small amount of water on the **hydrophilic** MgF.inf(2) stripes, the microchannels are homogeneous and are shaped as cylinder segments with...
...of many droplets. This instability has been studied for liquid jets (B7) , for liquid films **coating** thin fibers (B8) , and for long cylindrical vesicles (B9) . In contrast, the instability discussed here...
...state is characterized by a contact line that detaches itself from the boundary of the **hydrophilic** surface domain and makes an excursion across the **hydrophobic** surface (Fig. 2, C and E...the vapor-solid, liquid-solid, and liquid-vapor interfacial tensions, respectively (B12) . Thus, for the **hydrophobic** **silicone** rubber or the thiolated gold **substrate** (S = (delta)) as considered here, one would have the relatively large contact angle (theta) = (theta) .inf((delta)) ~= 108.Deg.. However, in the presence of the **hydrophilic** surface stripes (S = (gamma)), the water starts to condense onto these stripes, and the resulting...
...As more water condenses onto the stripes, these droplets coalesce until the **hydrophilic** stripes are completely covered by water, and the contact lines of these channels are located...

...inf((gamma)) which depends on (theta) and on the width a.inf((gamma)) of the **hydrophilic** stripe...
...this instability can be obtained from a somewhat crude approximation in which one replaces the **hydrophilic** stripe by a linear array of N circular domains that all have the same diameter...In Fig. 1B, these bridges are stable, because the stripes between the channels are sufficiently **hydrophobic** and have a relatively large width. If one reduces the hydrophobicity or the width of...
...bridge formation will nucleate a spreading process that leads to the complete coverage of the **hydrophobic** stripe and to the coalescence of the channels...
...Wettability patterns where pairs (or multiplets) of **hydrophilic** stripes have a smaller **hydrophobic** separation could be used as fluid microchips or microreactors. First, the different channels on the... substrate. (C and E) Location of the contact line, which makes an excursion into the **hydrophobic** surface domains. (B) and (C) were obtained from the theoretical shape; (D) and (E) were...
...to sit at such a corner because it can then maximize its contact with the **hydrophilic** stripe. If the corners are close enough to each other, two bulges in two adjacent...

16/8/2 (Item 2 from file: 98)
DIALOG(R)File 98:(c) 2003 The HW Wilson Co. All rts. reserv.
03750674 H.W. WILSON RECORD NUMBER: BGSI98000674
Adhesion of coagulase-negative staphylococci grouped according to physico-chemical surface properties.
DESCRIPTORS: Staphylococcus; Cell adhesion; Membranes (Biology)--Bacteria; Silicone
Dec. '97 (19971200)

16/8/3 (Item 1 from file: 148)
DIALOG(R)File 148:(c)2003 The Gale Group. All rts. reserv.
14520327 SUPPLIER NUMBER: 70741142 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Surface-Directed Liquid Flow Inside Microchannels.(bibliography included)
Feb 9, 2001
WORD COUNT: 2761 LINE COUNT: 00227
DESCRIPTORS: Microchemistry--Research; Fluid dynamics--Research; Testing equipment--Design and construction
GEOGRAPHIC CODES/NAMES: 1USA United States

16/8/5 (Item 1 from file: 636)
DIALOG(R)File 636:(c) 2003 The Gale Group. All rts. reserv.
01983452 Supplier Number: 43551275 (USE FORMAT 7 FOR FULLTEXT)
RESEARCH ALERT - BIOADHESION - Influence of substratum wettability on the adhesion of human fibroblasts
Jan, 1993
Word Count: 151
PUBLISHER NAME: International Newsletters
INDUSTRY NAMES: BUSN (Any type of business); CHEM (Chemicals, Plastics and Rubber); HLTH (Healthcare - Medical and Health); INTL (Business, International)

16/3,AB,K/4 (Item 2 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2003 The Gale Group. All rts. reserv.
13789580 SUPPLIER NUMBER: 77579324 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Advanced materials.(chemical industry innovations)
Kraft, Arno
Chemistry and Industry, 479
August 6, 2001
ISSN: 0009-3068 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 1464 LINE COUNT: 00123
... applications include contact lenses, catheters and artificial organs. Hydrogels are supposed to be compatible with **hydrophilic** tissues but should not glue to them. This is equal to a low surface friction. Polyanionic gels (which are usually made in the lab in **glass** vessels or on a **glass** **substrate**) already fulfil this criterion owing to electrostatic repulsion between the gel and glass. Interestingly enough...
...decreases even further by about two orders of magnitude when the hydrogel is prepared on **hydrophobic** substrates, such as polytetrafluoroethylene or polystyrene (J P Gong et al, J. Am. Chem. Soc., 2001, 123, 5582). The difference in the surface of gels made on **hydrophobic** rather than **hydrophilic** substrates was palpable. While cross-linking would normally proceed throughout a sample, gelation seemed to be suppressed at the interface to the **hydrophobic** substrate. As a consequence, the surface of the hydrogel possessed lo ts of branched dangling...

16/3,AB,K/7 (Item 1 from file: 370)
DIALOG(R)File 370:Science

00501636
Competing Interactions and Levels of Ordering in Self-Organizing Polymeric Materials
Muthukumar, M.; Ober, C. K.; Thomas, E. L.
M. Muthukumar is in the Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA 01003-4530, USA. C. K. Ober is in the Department of Materials Science and Engineering, Cornell University, Ithaca, NY 14853-1501, USA. E. L. Thomas is in the Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA 02139-4307, USA.
Science Vol. 277 5330 pp. 1225
Publication Date: 8-29-1997 (970829) Publication Year: 1997
Document Type: Journal ISSN: 0036-8075
Language: English
Section Heading: Articles
Word Count: 6248
Abstract: The sophisticated use of self-organizing materials, which include liquid crystals, block copolymers, hydrogen-and (pi) -bonded complexes, and many natural polymers, may hold the key to developing new structures and devices in many advanced technology industries. Synthetic materials are usually designed with only one structure-forming process in mind. However, combination of both complementary and antagonistic interactions in macromolecular systems can create order in materials over many length scales. Here polymer materials that make use of competing molecular interactions are summarized, and the prospects for the further development of such materials through both synthetic and processing pathways are highlighted.
...Text: units, which form micrometer-sized plate-like objects exhibiting upper and lower surfaces that have **hydrophobic** and **hydrophilic** character, respectively...
...nematic to smectic, and smectic to crystalline. By means of shearing the solution on a **glass** **substrate** when the system is in the nematic state,

a globally oriented material can be formed...

16/3,AB,K/8 (Item 2 from file: 370)
DIALOG(R)File 370:Science

00501278
Supramolecular Materials: Self-Organized Nanostructures
Stupp, S. I.; LeBonheur, V.; Walker, K.; Li, L. S.; Huggins, K. E.; Keser, M.; Amstutz, A.
The authors are in the Department of Materials Science and Engineering, Department of Chemistry, Beckman Institute for Advanced Science and Technology, Materials Research Laboratory, University of Illinois at Urbana-Champaign, Urbana 61801, IL, USA.
Science Vol. 276 5311 pp. 384
Publication Date: 4-18-1997 (970418) Publication Year: 1997
Document Type: Journal ISSN: 0036-8075
Language: English
Section Heading: Research Articles
Word Count: 4701
Abstract: Miniaturized triblock copolymers have been found to self-assemble into nanostructures that are highly regular in size and shape. Mushroom-shaped supramolecular structures of about 200 kilodaltons form by crystallization of the chemically identical blocks and self-organize into films containing 100 or more layers stacked in a polar arrangement. The polar supramolecular material exhibits spontaneous second-harmonic generation from infrared to green photons and has an adhesive tape-like character with nonadhesive-hydrophobic and hydrophilic-sticky opposite surfaces. The films also have reasonable shear strength and adhere tenaciously to glass surfaces on one side only. The regular and finite size of the supramolecular units is believed to be mediated by repulsive forces among some of the segments in the triblock molecules. A large diversity of multifunctional materials could be formed from regular supramolecular units weighing hundreds of kilodaltons.
...Text: rodlike block that is identical in all molecules. One terminus of the triblock is a **hydrophobic** methyl group (from the n-butyl lithium initiator), and the opposite terminus is **hydrophilic** , consisting of a phenolic group...and dried thoroughly under Ar. Top surfaces of these films (air side) were always highly **hydrophobic** , and contact angles for water of approximately 98.Deg. +/- 1.Deg. were observed. When we...
...water were always lower (approximately 27.Deg. +/- 2.Deg.), indicating the formation of a more **hydrophilic** surface. The contrasting **hydrophobic** - **hydrophilic** character on opposite surfaces of these films was always observed even without any long annealing...
...often required to observe contrasting surface properties in films of block copolymers that may contain **hydrophobic** backbones and **hydrophilic** end groups after being cast on polar surfaces (B16) . The observed surface behavior of films...
...Adhesion and mechanical properties. Supramolecular films cast on **glass** and thermally cross-linked adhere tenaciously to the **substrate** . This observed property could arise partly from hydrogen bonding between the substrate and the phenolic...
...We measured and averaged the second harmonic generation (SHG) from films cast from solution on **glass substrates** and discovered that frequency doubling of an infrared laser beam at 1064 nm was indeed...
...obtuse angle relative to the beam direction). Thus, the conjugated rod segments normal to the **glass substrate** must contribute to the signal.

Furthermore, when the incident beam had s-polarization, essentially no... ...contact energies between mushroom stems and caps would be minimized because bound solvent disguises their **hydrophilic** nature. Bilayer stacking could certainly create larger pores, which may be more difficult to fill...Figure F8

Caption: Water droplets on the surfaces of 16 different supramolecular films placed on **glass** **substrates** in different orientations after casting on water. The receding contact angles of water indicate which surface of the polar film is exposed to air-the one with **hydrophilic** or **hydrophobic** sectors of the supramolecular units...

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File 350:Derwent WPIX 1963-2003/UD,UM &UP=200353
File 347:JAPIO Oct 1976-2003/Apr(Updated 030804)
File 371:French Patents 1961-2002/BOPI 200209
Set     Items   Description
S1     104736   (FLUOROPOLYMER? OR CERAMIC OR SILICONE OR GLASS)(10N)(BASE-
             ()MATERIAL? ? OR SUBSTRAT??)
S2     163224   HYDROPHILIC OR POLYETHYLENE()(OXIDE OR GLYCOL) OR ETHYLENE-
             ()OXIDE(2N)COPOLYMER? ?
S3     293838   HYDROPHOBIC OR POLYPROPYLENE()OXIDE OR FLUOROCARBON? ? OR -
             HYDROCARBON? ?
S4       1129   ELECTROSURGICAL OR ELECTROSURGERY OR ELECTROSYNERES?S
S5      53766   SURGERY OR SURGICAL
S6       9299   MEDICAL()(DEVICE? ? OR INSTRUMENT? OR IMPLELMENT? ?)
S7     781575   COATING? ?
S8        271   S1 AND S2 AND S3
S9        120   S7 AND S8
S10         3   S4:S6 AND S9
S11        37   S1(S)S2(S)S3(S)S7
S12        37   S11 NOT S10
S13        21   S7/TI,DE AND S12
S14      1807   AMPHIPHILIC
S15        19   S1 AND S14
S16         9   S7 AND S15
S17         9   S16 NOT (S10 OR S13)
S18         1   S4:S6 AND S17
S19         8   S17 NOT S18
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10/7,K/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015451305
WPI Acc No: 2003-513447/200348
Surface modification of silicone **or siloxane-based polymer or copolymer** substrate **by exposing the surface to basic aqueous solution comprising substance capable of graft-polymerization with the substrate, and polymerizing**
Patent Assignee: GOLDBERG E P (GOLD-I); JABAR H (JABA-I); UNIV FLORIDA (UYFL); URBANIAK D (URBA-I); WIDENHOUSE C W (WIDE-I)
Inventor: GOLDBERG E P; WIDENHOUSE C W
Number of Countries: 100 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200330940	A1	20030417	WO 2002US32050	A	20021009	200348	B

Priority Applications (No Type Date): US 2001327293 P 20011009
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200330940	A1	E	22	A61K-047/30	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW
Abstract (Basic): WO 200330940 A1
NOVELTY - Surface modification of a **silicone** or siloxane-based

polymer or copolymer **substrate** involves exposing the surface to a basic aqueous solution comprising a substance capable of graft-polymerization with the substrate and having a pH above 8 for a time to enhance the graft polymerization, and subjecting the surface and basic solution to conditions where the polymerizable substance is polymerized.

USE - The method is used for modifying the surface properties of a silicone or siloxane-based polymer or copolymer **substrate** . The surface modified **silicone** or siloxane-based polymer or copolymer **substrate** is used for the manufacture of an article, e.g. intraocular lens, ocular implant, catheter, pacer lead, **surgical** tubing, endotracheal tube, blood bag, peripheral nerve graft, contact lens, dialysis shunt, breast implant, soft tissue implant for plastic **surgery** , myringotomy tubing, glaucoma shunt, surface interface device for neutral connections, hernia repair membrane, or bio-DNA chip (claimed).

ADVANTAGE - The graft-polymerization of a polymerizable substance to form a **coating** on the surface of a silicone or siloxane-based polymer and/or copolymer is greatly enhanced by the prior or simultaneous exposure of the surface to a basic aqueous solution having a pH above 8.

pp; 22 DwgNo 0/0

Derwent Class: A26; A35; A96; D22
International Patent Class (Main): A61K-047/30
International Patent Class (Additional): A61K-047/32; A61K-047/34
Technology Focus:

... a monomer and/or oligomer, the graft polymerization of which with the surface forms a **coating** more **hydrophilic** than the uncoated surface. The substance is N-vinylpyrrolidone, 2-hydroxyethylmethacrylate, an alkali salt of sulfopropyl acrylate, a vinylsulfonic acid, an amino functional monomer and/or oligomer, acrylamide, dimethylacrylamide, **polyethylene glycol** monomethacrylate, hydroxypropylacrylamide, methacrylic acid, or dimethylaminoethylmethacrylate. The substrate comprises polydimethyldisiloxane, or a copolymer of a...

...polyacrylic, polystyrene, polymethacrylate, ethylene-propylene copolymer, polybutadiene, styrene-butadiene copolymer, styrene-ethylene-butadiene copolymer, polycarbonate, **fluorocarbon** polymer, polyvinylchloride, or their mixtures. Preferred Components: The solution contains a metal hydroxide to achieve...

...beam dose rate is 10-108 rads/minute. The method includes incorporating in the polymerized **coating** a drug which is preferably an anti-microbial or a therapeutic agent.

10/7,K/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
013401673 **Image available**
WPI Acc No: 2000-573611/200054

Manufacture of polymeric chemical adsorption film, involves contacting and reacting substrate with chlorosilane-based adsorption solution prepared by mixing adsorbent, cross-linking agent and organic solvent

Patent Assignee: MATSUSHITA ELECTRIC IND CO LTD (MATU)
Inventor: OGAWA K
Number of Countries: 008 Number of Patents: 001
Patent Family:

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Patent No      Kind   Date     Applicat No     Kind   Date      Week
EP 1031385      A2  20000830  EP 97306495      A   19970826  200054  B
                              EP 2000106173    A   19970826
Priority Applications (No Type Date): JP 9736578 A 19970220; JP 96224218 A
  19960826
Patent Details:
Patent No  Kind Lan Pg   Main IPC     Filing Notes
EP 1031385    A2 E  37 B05D-001/18    Div ex application EP 97306495
                                      Div ex patent EP 826430
   Designated States (Regional): AL DE FR GB LT LV RO SI
```

Abstract (Basic): EP 1031385 A2

NOVELTY - The method involves contacting and reacting a substrate with a chlorosilane-based chemical adsorption solution. The solvent is evaporated, and unreacted materials left on the substrate are reacted with water. The adsorption solution is prepared by mixing a chlorosilane-based adsorbent, a chlorosilane-based crosslinking agent comprising several chlorosilyl groups and a non-aqueous organic solvent.

DETAILED DESCRIPTION - The method involves contacting a substrate comprising active hydrogen groups on its surface, with a chlorosilane-based chemical adsorption solution. The substrate surface is reacted with the molecules of the adsorption solution. The solvent is evaporate, and unreacted materials left on the substrate are reacted with water, to obtain an adsorption film which is cross-linked by siloxane bonds. The adsorption solution is prepared by mixing a chlorosilane-based adsorbent containing chlorosilyl groups and straight carbon chains, a chlorosilane-based cross-linking agent comprising several chlorosilyl groups and a non-aqueous organic solvent.

INDEPENDENT CLAIMS are also included for the following:

(i) chemical adsorption solution comprising chlorosilane-based adsorbent, cross-linking agent and a non-aqueous solvent which does not contain active hydrogen; and

(ii) chemical adsorption film which comprises molecules covalently bonded to the substrate surface. The monomolecular **coating** film is randomly cross-linked by several siloxane bonds of remaining groups of polyhalosilane or polyalkoxysilane.

USE - Used for:

(a) **substrates** such as metal, **ceramic** , plastic, wood;

(b) cutlery such as kitchen knife, scissors, knife, cutter, engraver;

(c) needles such as acupuncture needle, sewing needle, tatami needle, **surgical** needle;

(d) products in the pottery industry such as pottery, glass, ceramics or enameled products;

(e) mirrors such as hand mirror, full-length mirror, bathroom mirror, washroom mirror;

(f) molding parts such as dies for press molding, cast molding, injection molding, transfer molding;

(g) ornaments such as watch, jewel, pearl, sapphire, ruby;

(h) molds for food such as baking mold for cake, cookies, bread, mold for chocolate;

(i) cookware such as pan, iron pot, kettle, pot, frying pan, hot plate;

(j) papers such as photogravure paper, water- and oil-repellent paper, poster paper, high-grade pamphlet;

(k) resins such as polyolefin such as polypropylene and

polyethylene, polyvinyl chloride plastic, polyvinylidene, polyamide, polyimide, polyamideimide, polyester, aramide, polystyrene, polysulfone, polyethersulfone, polyphenylenesulfide, phenolic resin, furan resin, urea resin, epoxy resin, polyurethane, silicon resin, ABS resin, methacrylic resin, acrylate resin, polyacetal and polyphenylene oxide;

(l) household electric goods such as television, radio, tape recorder, audio, CD, refrigerator;

(m) sporting goods such as skies, fishing rod, pole for the pole vault, boat, sailboat, jet ski;

(n) vehicle parts such as instrument panel, bumper, brake, radiator fan, wheelcap, fuel tank;

(o) office supplies such as fountain pen, mechanical pencil, binder, desk, chair;

(p) building materials such as materials for rood, outer wall and interiors;

(q) building stones such as granite, marble;

(r) musical instruments and audio equipment such as percussion instruments, stringed instruments, keyboard instruments, microphones and speakers;

(s) thermos bottles, vacuum equipment, highly water- and oil-repellent high capacity voltage insulators, spark plugs.

ADVANTAGE - Heat resistant property, abrasion resistant property and weather resistant property of the **coating** film are enhanced. Inclination and orientation of molecules of the surface active agent is performed in a predetermined single direction. Manufacture of the film is performed stably in dry atmosphere at relative humidity 35% or less. The film has improved endurance.

DESCRIPTION OF DRAWING(S) - The figure shows the cross-sectional view of the substrate enlarged to a molecular level, explaining the manufacture of chemical adsorption film.

Aluminum substrate (11)
Polymer **coating** film (12)
pp; 37 DwgNo 7b/10

Derwent Class: A26; A82; G02; P42
International Patent Class (Main): B05D-001/18
Technology Focus:

... Preferred Adsorbent: The adsorbent comprises one or more **fluorocarbon** groups which satisfies the formulae: CF3-(CF2)n-(R)m-SiXpCl3-p, CF3-(CF2)n...

...substituted by isocyanate-based adsorbent and crosslinking agent, respectively. The non-aqueous solvent is a **hydrocarbon** -based solvent or a **fluorocarbon** -based solvent which does not contain water...

...Preferred **Substrate** : A **substrate** is a metal, **ceramic** , **glass** , plastic, paper, fiber and/or leather. The **substrate** surface which is a plastic and/or fiber, is treated with plasma or corona atmosphere containing oxygen, to obtain **hydrophilic** properties. The entire process is performed in a dry atmosphere...

Extension Abstract:

... chemical adsorption solution was prepared by mixing 5% of CF3(CF2)7(CH2)2SiCl3, containing **fluorocarbon** groups and chlorosilane groups (as a chemical adsorbent), 3% of hexachlorodisiloxane (as a cross-linking...

...indicated that the reactions took place according to the equations (I) and (II). A polymer **coating** film was formed on the substrate surface by covalent bonds. The thickness of the **coating** film was around 5 nm.

Even if a cross-cut adhesion test was carried out on the **coating** film, the film did not peel off.

10/7,K/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012662846 **Image available**
WPI Acc No: 1999-468951/199939
Non-stick coating **, used in abrasive environment e.g. gears**
Patent Assignee: MEDQUEST PROD INC (MEDQ-N); UNIV UTAH RES FOUND (UTAH)
Inventor: AJIT K B; DON B O; GURUSWAMY S; PRATAP K
Number of Countries: 081 Number of Patents: 007
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9936193	A1	19990722	WO 98US8917	A	19980709	199939	B
AU 9891968	A	19990802	AU 9891968	A	19980709	199954	
EP 1049544	A1	20001108	EP 98944430	A	19980709	200062	
			WO 98US8917	A	19980709		
KR 2001040354	A	20010515	KR 2000707877	A	20000719	200167	
CN 1310647	A	20010829	CN 98813209	A	19980709	200176	
JP 2002509190	W	20020326	WO 98US8917	A	19980709	200236	
			JP 2000539946	A	19980709		
AU 751322	B	20020815	AU 9891968	A	19980709	200264	

Priority Applications (No Type Date): US 9871778 P 19980119
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9936193	A1	E	52	B05D-003/00	

Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
AU 9891968	A			B05D-003/00	Based on patent WO 9936193
EP 1049544	A1	E		B05D-003/00	Based on patent WO 9936193

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
KR 2001040354	A			B05D-003/00	
CN 1310647	A			B05D-003/00	
JP 2002509190	W		44	C23C-014/34	Based on patent WO 9936193
AU 751322	B			B05D-003/00	Previous Publ. patent AU 9891968 Based on patent WO 9936193

Abstract (Basic): WO 9936193 A1

NOVELTY - Amorphous and conductive transition metal nitride, is applied to the substrate by a room temperature process.

DETAILED DESCRIPTION - Amorphous and conductive transition metal nitride, such as titanium nitride, is applied to a substrate material which is used in an abrasive environment by a room temperature process such as sputtering so that the **substrate** is not deformed to provide a wear resistant **ceramic** **coating** .

INDEPENDENT CLAIMS are also included for the following:

(a) methods in which the **coating** is applied to semiconductor material, heat sensitive material, a material used in an environment detrimental to the material and on a ceramic material which can be damaged by thermal energy application;

(b) providing a biocompatible **coating** on a temperature sensitive

material;

(c) creating a more effective diffusion barrier, including a membrane (60) used in a pumping mechanism in which a layer of ceramic **coating** (62) is positioned between two polyurethane membranes (64) and (66) to one of which the **coating** is integrally bonded.

USE - Used in medical implants and instruments, audio system playback head, cooking container, plastic gears, spark plugs and razor blades (all claimed). It is also used on integrated circuits, audio and video recording equipment, kitchen utensils, small tools, cutting implements, footwear and moulds.

ADVANTAGE - The **coating** can be applied to many materials with the room temperature application process. The **coating** having biocompatability, flexibility, radio opacity, diffusion resistance, wear and corrosion resistance, lubricity, hardness, sterilisability, chemical inertness, stability and the ability to be **hydrophobic** or **hydrophilic** . The **coating** does not burn, flake or scrape off after repeated exposure to abrasion from sharp edges and does not evolve hazardous byproduct gases.

DESCRIPTION OF DRAWING(S) - The drawing shows a diagrammatic cross-section of a diffusion barrier in **medical devices** .

pumping mechanism membrane (60)
ceramic **coating** (62)
polyurethane membranes (63, 64)
pp; 52 DwgNo 3/3

Derwent Class: A35; A96; D22; L03; M13; P42; P62; P73; X14
International Patent Class (Main): B05D-003/00; C23C-014/34
International Patent Class (Additional): B26B-021/54; B32B-009/00; B32B-019/00; C23C-008/00; C23C-014/00; C23C-016/00; H05H-001/24

13/26,TI/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012404916
WPI Acc No: 1999-211024/199918
Anti-fogging coating **film - contains hydrophilic polymer, benzophenone compound and optionally 2,2,6,6- tetramethyl-4-piperidine type hindered amine**

13/26,TI/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011615490
WPI Acc No: 1998-032618/199803
Anti-fouling member used as coatings **for biopolymers - consisting of substrate and top surface layer containing photocatalytic oxide, silicone resin or silica and water-repellent fluororesin**

13/26,TI/9 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010613977
WPI Acc No: 1996-110930/199612
Forming water-proof, anti-clouding coating **on plastic or glass - comprises** coating **composite contg polymer, cpd with at least two epoxy gps, hydrophobic monomers having at least two (meth)acryloyl gps, and initiator, onto substrate of plastic or glass, etc.**

13/26,TI/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
010613976
WPI Acc No: 1996-110929/199612
Forming water-proof, anti-clouding coating **on plastic or glass - by forming undercoat contg. (meth)acryloyl and polyepoxy gps. and radiation curing, then forming top-coat contg. hydrophilic polymer**

13/26,TI/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
010613975
WPI Acc No: 1996-110928/199612
Forming water-proof, anti-clouding coating **on plastic or glass - by** coating **composite contg polymer hydrophobic monomers with acryloyl gps and initiator onto substrate and curing with irradiating light, etc**

13/26,TI/13 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
009548904
WPI Acc No: 1993-242454/199330
Silicone release coating **compsn. for pressure sensitive adhesives - comprising a reactive crosslinkable silicone, catalyst and high mol.wt. water-soluble polymeric thickening agent**

13/26,TI/14 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
009142918
WPI Acc No: 1992-270356/199233
Curable polyurethane-type coatings **having a less linear polyether block - have good flexibility and adhesion at low temps. to both hydrophilic and hydrophobic substrates**

13/26,TI/15 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
008133008
WPI Acc No: 1990-020009/199003
Intra-ocular lens with functional surface coating **- mfd. by organic monomer for initiating** coating **plasma polymerisation at low discharge and forming plasma polymerised films**

13/26,TI/16 (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
004517296
WPI Acc No: 1986-020640/198603
Assembling multilayers of polymerised surfactant on solid surfaces - by alternately applying and polymerising coatings **of surfactant monomer from aq. or polar, and non-polar solvent systems**

13/26,TI/17 (Item 17 from file: 350)
DIALOG(R)File 350:Derwent WPIX

001609610
WPI Acc No: 1976-44019X/197624
Water based, coating **compsns. contg. polyether polyol resin - and aminoplast crosslinking agent, giving highly concd. compsns. and hard, flexible thick** coatings

13/26,TI/18 (Item 18 from file: 350)
DIALOG(R)File 350:Derwent WPIX

001571608
WPI Acc No: 1976-05977X/197604
Non-fogging polymeric coating **compsn. - comprising hydrophilic acrylic polymer and organosiloxane-oxyalkylene block copolymer**

13/26,TI/19 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

05848547
ANTIFOULING BLIND

13/26,TI/20 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO

03564566
DYEING OF SURFACE- **COATING** FILM OF SUBSTRATE

13/26,TI/21 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO

00615032
METHOD FOR MANUFACTURING NON-FOGGING ARTICLE

18/7,K/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014508750
WPI Acc No: 2002-329453/200236
Coating on substrate, useful e.g. as carriers for mass spectrometry, comprises adhesion layer and hydrophilic polymer with chains normal to the surface
Patent Assignee: INST CHEMO & BIOSENSORIK MUENSTER EV (CHEM-N); XANTEC BIOANALYTICS GMBH (XANT-N)
Inventor: GEDIG E; HAALCK L; GEDIG E T
Number of Countries: 096 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200210759	A2	20020207	WO 2001EP8701	A	20010727	200236	B
DE 10036907	A1	20020214	DE 1036907	A	20000728	200236	
AU 200182034	A	20020213	AU 200182034	A	20010727	200238	
GB 2381482	A	20030507	WO 2001EP8701	A	20010727	200331	
			GB 20034305	A	20030226		

Priority Applications (No Type Date): DE 1036907 A 20000728
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200210759	A2	G	49	G01N-033/543	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
DE 10036907 A1 C09D-005/12
AU 200182034 A G01N-033/543 Based on patent WO 200210759
GB 2381482 A G01N-033/543 Based on patent WO 200210759
Abstract (Basic): WO 200210759 A2

NOVELTY - **Coating** (A), on a substrate, comprises (i) a polymeric adhesion-mediating layer (B) and (ii) a hydrophilic polymer layer (C), containing at least one polymer, in which the polymer chains are at least partly arranged in a brush-like manner.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for preparing (A).

USE - (A) are used (i) in affinity or amperometric sensors and biochips; (ii) as sample carriers for mass spectrometric analysis of chemical or biological compounds; (iii) to determine the isoelectric point of compounds, by measuring adsorption from solutions of differing pH values; (iv) for optimization of chromatography; (v) for concentration and/or isolation of biomolecules, e.g. as **coating** on chromatographic stationary phases; (vi) for **coating** nano/micro particles, intracorporeal implants for active ingredient release and/or fillers for bioreactors; (vii) as soil-repellant and anti-adhesion **coatings** in aqueous media; (viii) as inert/active **coating** for **medical instruments** /implants that come into contact with biological media; and (ix) as antisoil **coatings** for optical components, e.g. spectacles, or for retaining liquid on ophthalmic instruments.

ADVANTAGE - (A) is soil repellant and self-cleaning, particularly with reduced non-specific protein adsorption (improving signal quality in mass spectrometry), but has adjustable immobilization capacity and controllable permeability. The arrangement of (C) increases immobilization capacity (over that of a planar surface) without encountering problems of diffusion limitation associated with thick hydrogel layers, and (A) can be formed, with consistent quality, quickly and simply from aqueous solution.

pp; 49 DwgNo 0/15

Derwent Class: A28; A89; A96; B03; B04; D16; D22; G02; P73; S03
International Patent Class (Main): C09D-005/12; G01N-033/543
International Patent Class (Additional): A61K-047/48; B32B-015/08; B32B-017/10; B32B-027/12; C08J-007/12
Technology Focus:
... Preferred **coating** : At least one additional layer (D), of polymer and/or particles, is applied over (C...
...Preferred **substrate** : This may be of e.g. conductive material, **glass** , metal plastic etc.; optionally functionalized and/or cleaned by treatment with an oxidizing agent, plasma...
...polyalcohol, polyether, polyamide, poly(carboxylic acid), polysulfate/sulfonate and/or polyphosphate/phosphonate. (B) comprises an **amphiphilic** polymer, e.g. a polyamine, optionally modified by (di)sulfide, (di)selenide, isothiocyanate etc. functional...

19/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014787682
WPI Acc No: 2002-608388/200265
Novel product useful for detecting molecules e.g. polypeptides, comprises membrane-spanning protein coupled to a substrate, and lipid membrane formed from amphiphilic **molecules and membrane-spanning protein molecules**

19/26,TI/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009989635
WPI Acc No: 1994-257346/199432
Cholesteric liq. crystal cpd. for polymer dispersion LCD element - obtd. e.g. by reacting cholesterol with bromo-alkanoic acid cpd. and reacting prod. with an acrylamide cpd.

19/26,TI/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009158187
WPI Acc No: 1992-285624/199235
Integrated optical polariser simpler prodn. with Langmuir Blodgett absorber film - of amphiphilic **dyestuff and pref. mols, forcing fixed geometry, esp. of fatty acid**

19/7,K/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015506771 **Image available**
WPI Acc No: 2003-568918/200353
Formation of thin film on substrate , e.g. glass , germanium oxide, ceramic , porcelain, fiberglass, metal, thermoset and thermoplastic, by using composite comprising porous carrier and amphiphilic material
Patent Assignee: INNOVATION CHEM TECHNOLOGIES LTD (INNO-N)
Inventor: ARORA P K
Number of Countries: 097 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200337613	A1	20030508	WO 2002US34033	A	20021024	200353	B

Priority Applications (No Type Date): US 200282712 A 20020225; US 2001350096 P 20011029
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200337613	A1	E	31	B32B-003/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
Designated States (Regional): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR

Abstract (Basic): WO 200337613 A1

NOVELTY - Forming a high quality thin film on substrate using a porous carrier.

DETAILED DESCRIPTION - A thin film is formed on a substrate by providing a substrate in a chamber, inserting a composite comprising a porous carrier and an **amphiphilic** material into the chamber, setting

at least one of a temperature of the composite at 20-400degrees C and at 0.000001-760 torr to induce vaporization of the **amphiphilic** material, and recovering the substrate

INDEPENDENT CLAIMS are also included for:

(a) a system for forming a thin film comprising a film forming chamber in communication with at least one of a heat source and a vacuum system, a composite comprising a porous carrier (10) and an **amphiphilic** material, and a substrate; and

(b) a film forming composite comprising a porous carrier comprising pores (12) having an average pore size of 1-1000 mum, and an **amphiphilic** material.

The porous carrier has a porosity so that it absorbs 0.001-5 g **amphiphilic** material/cm3 porous carrier.

USE - The invention is used for forming thin film on a **substrate** , e.g. **glass** , **glass** having antireflection **coating** , silica, germanium oxide, **ceramic** , porcelain, fiberglass, metal, thermoset and thermoplastic (claimed).

ADVANTAGE - Since the porous carrier is used to deliver the **amphiphilic** material to the chamber, damage to substrates is avoided while uniform distribution of the **amphiphilic** material vapor is facilitated. The porous carrier also avoids splashing as the **amphiphilic** material is vaporized, leading to less wastage. Uniform and continuous films can be efficiently formed on substrates without damaging the substrates. The deposited thin film provides scratch resistance, protection of anti-reflective **coatings** on eyewear lenses, protection from corrosion, moisture barrier, friction reduction, anti-static, stain resistance, and fingerprint resistance.

DESCRIPTION OF DRAWING(S) - The figure is an illustration of a composite for forming thin films.

Porous carrier (10)

Pores (12)

pp; 31 DwgNo 1/4

Derwent Class: A25; A26; A82; E19; G02; L01; M13; P73
International Patent Class (Main): B32B-003/00
International Patent Class (Additional): B32B-003/06; B32B-003/26; C23C-016/00
Technology Focus:
... Preferred Materials: The **amphiphilic** material is of formula RmSiZn (I), RmSHn (II), RSiNSiR (V), R(CH2CH2O)qP(O)x...

19/7,K/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014914154 **Image available**
WPI Acc No: 2002-734861/200280

Deposition of amphiphilic molecules on substrate , e.g. plastic or glass lens, using container holding amphiphilic vapor that is broken before placing in deposition chamber with substrate to be coated

Patent Assignee: NANOFILM LTD (NANO-N)
Inventor: ARORA P K; SINGH B P
Number of Countries: 007 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 1253118	A2	20021030	EP 99304053	A	19990525	200280	B
			EP 200215991	A	19990525		

Priority Applications (No Type Date): US 9884944 A 19980526

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1253118	A2	E	10	C03C-017/00	Div ex application EP 99304053
					Div ex patent EP 963797

Designated States (Regional): BE CH DE FR GB IT LI

Abstract (Basic): EP 1253118 A2

NOVELTY - Deposition of thin films of **amphiphilic** molecules on substrate uses a vapor phase **coating** processes that can be carried out at relatively low temperatures e.g. less than 100 degrees C and can be used to coat many different substrate materials and shapes.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a sealed rupturable container containing less than 5 g/wt. of heat vaporizable **amphiphilic** molecules used to carny out the process described above.

USE - Used for providing ultra thin films on laboratory glassware, non-stick **coating** pots and pans, and for **coating** glass and plastic lens surfaces with antireflective **coatings** and hard **coatings** for scratch resistance.

ADVANTAGE - The processes allows application of ultra thin films in a very fast and efficient manner to substrates having irregular surface shapes including shallow engraved profiles or patterns. The processes forms continuous and uniform thickness films.

DESCRIPTION OF DRAWING(S) - The diagram shows the vacuum chamber used in the processes described above.

Vacuum chamber (10)
Door (12)
Vacuum pump (14)
Valve (16)
Condenser (20)
Valved outlet (22)
pp; 10 DwgNo 1/5

Derwent Class: L01; P42
International Patent Class (Main): C03C-017/00
International Patent Class (Additional): B05D-007/24; C03C-017/28; C03C-017/30
Technology Focus:
... is placed in a chamber, then a sealed ampoule or sealed rupturable container containing the **amphiphilic** molecules is broken open and placed in the chamber before evacuating the chamber. The container...

19/7,K/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009440904
WPI Acc No: 1993-134423/199316

Coating compsn. forming continuous, ultra-thin uniform film - comprising film forming cpd. having amphiphilic mols. dispersed in carrier which inhibits diffusion of moisture into compsn.

Patent Assignee: NANOFILM LTD (NANO-N); NANOFILM CORP (NANO-N)
Inventor: SINGH B P; SUBRAMANIAM R
Number of Countries: 015 Number of Patents: 009
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9307224	A1	19930415	WO 91US8748	A	19911120	199316	B
US 5204126	A	19930420	US 90475777	A	19900206	199317	
			US 91774451	A	19911010		

EP 607146	A1	19940727	WO 91US8748	A	19911120	199429
			EP 92906253	A	19911120	
EP 607146	A4	19951122	EP 92906253	A		199626
EP 826748	A2	19980304	EP 92906253	A	19911120	199813
			EP 97202777	A	19911120	
EP 607146	B1	19990526	WO 91US8748	A	19911120	199925
			EP 92906253	A	19911120	
			EP 97202777	A	19911120	
DE 69131279	E	19990701	DE 631279	A	19911120	199932
			WO 91US8748	A	19911120	
			EP 92906253	A	19911120	
EP 826748	B1	20020130	EP 92906253	A	19911120	200209
			EP 97202777	A	19911120	
DE 69132921	E	20020314	DE 632921	A	19911120	200226
			EP 97202777	A	19911120	

Priority Applications (No Type Date): US 91774451 A 19911010; US 90475777 A 19900206

Cited Patents: US 4382821; US 4851043; EP 312100; EP 326438; EP 339677; EP 351092; EP 363924; EP 385656; EP 445534; EP 482613; EP 511657

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9307224	A1	E	36	C09D-005/20	
Designated States (National): JP					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU NL SE					
US 5204126	A		9	B29C-033/00	CIP of application US 90475777
					CIP of patent US 5078791
EP 607146	A1	E			Based on patent WO 9307224
Designated States (Regional): DE FR GB IT					
EP 607146	A4			C09D-005/20	
EP 826748	A2	E	10	C09D-005/20	Div ex application EP 92906253
					Div ex patent EP 607146
Designated States (Regional): DE FR GB IT					
EP 607146	B1	E		C09D-005/20	Related to application EP 97202777
					Related to patent EP 826748
					Based on patent WO 9307224
Designated States (Regional): DE FR GB IT					
DE 69131279	E			C09D-005/20	Based on patent EP 607146
					Based on patent WO 9307224
EP 826748	B1	E		C09D-005/20	Div ex application EP 92906253
					Div ex patent EP 607146
Designated States (Regional): DE FR GB IT					
DE 69132921	E			C09D-005/20	Based on patent EP 826748

Abstract (Basic): WO 9307224 A

A **coating** compsn. (I) which forms a continuous, ultra-thin uniform film (I) comprises: a) a film-forming cpd. (II) having **amphiphilic** mols; dispersed in b) a carrier which is non-liq. at temps. below 20 deg.C and which inhibits diffusion of moisture into the compsn.

Pref. (I) has a consistency in a cone penetration test of 35-400 (partic. 150-300) at 25 deg.C and a m.pt. above 30 (partic. above 50) deg.C. Also claimed is a **substrate** surface, pref. **glass** and partic. in the form of cookware, laboratory ware or spectacle lenses, coated with (I). The lenses may opt. have an anti-reflective or scratch-resistant **coating** which is covered with (I). (I) which provides a transparent abrasion and stain-resistant film on a substrate is also claimed. **Coating** a substrate with (I) comprises applying (I)

to a surface, leaving it until the (II) mols. have formed a continuous ultra-thin film on the surface and then washing off excess (I). When (II) is polymerizable it may opt. be polymerized in situ by heat or light, partic. u.v. light. ADVANTAGE - The carrier is neutral, environmentally safe and non-toxic. In the formation of the **coating** hazardous materials are not released.

Dwg.0/4

Abstract (Equivalent): US 5204126 A

Mould for casting articles, comprises inner surfaces coated with a release **coating** consisting of polymerised **amphiphilic** mols. that are capable of self-assembly and are self-assembled on surfaces. **Coating** thickness is pref. upto 10nm. Surfaces are highly polished to an optically flat finish. Mould is glass, ceramic, or porcelain. Surfaces are in spaced-apart opposed relationship and are curved for moulding lenses.

USE/ADVANTAGE - For optical lenses having unbroken surfaces except for minor defects or pinhole imperfections.

(Dwg.0/4

Derwent Class: A82; G02; L01; P42

International Patent Class (Main): B29C-033/00; C09D-005/20

International Patent Class (Additional): B05D-001/18; B29C-033/60; B29C-039/02

19/7,K/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

009287525 **Image available**

WPI Acc No: 1992-414936/199250

Ultra-thin film of amphiphilic **mols. applied on a substrate - used to form durable non-stick** coating

Patent Assignee: NANOFILM CORP (NANO-N); NANOFILM LTD (NANO-N)

Inventor: RICKERT S E; SINGH B P; SUBRAMANIAM R

Number of Countries: 017 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5166000	A	19921124	US 91774456	A	19911010	199250	B
WO 9306994	A1	19930415	WO 92US6722	A	19920812	199316	
EP 663868	A1	19950726	EP 92918168	A	19920812	199534	
			WO 92US6722	A	19920812		
EP 663868	A4	19951122	EP 92918168	A	19920000	199626	
EP 663868	B1	19990324	EP 92918168	A	19920812	199916	
			WO 92US6722	A	19920812		
DE 69228765	E	19990429	DE 628765	A	19920812	199923	
			EP 92918168	A	19920812		
			WO 92US6722	A	19920812		

Priority Applications (No Type Date): US 91774456 A 19911010

Cited Patents: US 4048963; US 5106561; EP 339677

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5166000	A		5	B32B-017/10	
WO 9306994	A1	E	25	B32B-017/10	

Designated States (National): CA

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL SE

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 663868	A1	E		B32B-017/10	Based on patent WO 9306994

Designated States (Regional): DE FR GB IT

EP 663868 B1 E B32B-017/10 Based on patent WO 9306994
Designated States (Regional): DE FR GB IT
DE 69228765 E B32B-017/10 Based on patent EP 663868
Based on patent WO 9306994
EP 663868 A4 B32B-017/10

Abstract (Basic): US 5166000 A

A method of applying a thin film to a substrate surface comprises (1) providing film-forming **amphiphilic** mols. capable of self-assembly on a surface into a continuous thin film; (2) dispersing the mols. in water to form a mixt.; (3) atomising the mixt. to form a mist of droplets; (4) depositing the droplets on a substrate surface, completely covering the surface with a **coating** of the mist; (5) allowing the mols. in the **coating** to self-assemble on the surface into a continuous thin film; and (6) evaporating the water from the **coating** .

Also claimed is a **substrate** surface, pref. of **glass** , **ceramic** or porcelain having such an applied film, and esp. comprising cookware.

USE/ADVANTAGE - Thin films of **amphiphilic** mols. are applied to form non-stick **coatings** on cookware etc. by an energy-conserving method not requiring environmentally damaging solvents. The durable, ultra-thin films produced are invisible to the naked eye and have excellent release properties.

Dwg.1/4

Derwent Class: A32; L01; L02; P42; P73
International Patent Class (Main): B32B-017/10
International Patent Class (Additional): B05D-001/02; B05D-003/02; C08L-027/14

```
File 348:EUROPEAN PATENTS 1978-2003/Aug W02
File 349:PCT FULLTEXT 1979-2002/UB=20030814,UT=20030807
Set     Items   Description
S1      45589   (FLUOROPOLYMER? OR CERAMIC OR SILICONE OR GLASS)(10N)(BASE-
             ()MATERIAL? ? OR SUBSTRAT??)
S2     117766   HYDROPHILIC OR POLYETHYLENE()(OXIDE OR GLYCOL) OR ETHYLENE-
             ()OXIDE(2N)COPOLYMER? ?
S3     195499   HYDROPHOBIC OR POLYPROPYLENE()OXIDE OR FLUOROCARBON? ? OR -
             HYDROCARBON? ?
S4       1507   ELECTROSURGICAL OR ELECTROSURGERY OR ELECTROSYNERES?S
S5      64909   SURGERY OR SURGICAL
S6      13810   MEDICAL()(DEVICE? ? OR INSTRUMENT? OR IMPLELMENT? ?)
S7     238846   COATING? ?
S8       4455   AMPHIPHILIC
S9         41   S1(S)S8
S10        19   S9(S)S7
S11         0   S4:S6(S)S10
S12         4   S4:S6 AND S10
S13        15   S10 NOT S12
S14         1   S13/TI,AB,DS
S15        14   S13 NOT S14
```

12/6/1 (Item 1 from file: 349)
01024900 **Image available**
STABILIZED BIOCOMPATIBLE MEMBRANES OF BLOCK COPOLYMERS AND FUEL CELLS PRODUCED THEREWITH

12/6/2 (Item 2 from file: 349)
01020960 **Image available**
BIOCOMPATIBLE MEMBRANES OF BLOCK COPOLYMERS AND FUEL CELLS PRODUCED THEREWITH

12/6/3 (Item 3 from file: 349)
01020959 **Image available**
BIOCOMPATIBLE MEMBRANES AND FUEL CELLS PRODUCED THEREWITH

12/6/4 (Item 4 from file: 349)
00761039
PREPARATIONS FOR THE APPLICATION OF ANTI-INFECTIVE AND/OR ANTI-INFLAMMATORY AGENTS

14/3,AB/1 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00807033
PATTERNED HYDROPHILIC-OLEOPHILIC METAL OXIDE COATING AND METHOD OF FORMING
REVETEMENT D'OXYDE METALLIQUE OLEOPHILE HYDROPHILE A MOTIF ET METHODE DE FABRICATION
Patent Applicant/Assignee:
  CATERPILLAR INC, 100 N.E. Adams Street, Peoria, IL 61629-6490, US, US (Residence), US (Nationality)
Inventor(s):
  KELLEY Kurtis C, 914 Birchwood Drive, Washington, IL 61571-1601, US,
  ROCKWOOD Jill E, 607 N. Main Street, Washington, IL 61571, US,
  THOMSON Norval P, 4809 W. Cedar Hills Dravie, Dunlap, IL 61525-9764, US,
Legal Representative:

MORRISON John W (et al) (agent), 100 N.E. Adams Street, Peoria, IL 61629-6490, US,

Patent and Priority Information (Country, Number, Date):
Patent: WO 200140545 A1 20010607 (WO 0140545)
Application: WO 2000US30362 20001103 (PCT/WO US0030362)
Priority Application: US 99454378 19991203

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English
Filing Language: English
Fulltext Word Count: 3493

English Abstract
A metal oxide **coating** (18) has a nanotextured surface (22) defined by a plurality of capillary openings (20) arranged in a pattern on the surface of the **coating** (18). Each of the capillary openings (20) have a diameter defined by a previously present organic macromolecule (10). The metal oxide **coating** (18) is formed by depositing a solution containing uniformly dispersed micelles (10) composed of **amphiphilic** molecules (12) on a metal, oxide, or plastic substrate (16). The micelles (10) are self-arranging, in solution, as a result of mutually repulsive electrostatic forces on the surface of the micelles (10), and form a uniformly patterned organic template (14) when the solution is deposited on the surface of the substrate (16). A metal oxide **coating** is then applied to the **substrate** (16), which forms a **ceramic** monolayer that is a negative image of the organic template (14). The organic template (14) is then removed, thereby forming a metal oxide **coating** (18) having a plurality of macromolecular-sized apertures (20) formed therein.l

15/6/1 (Item 1 from file: 348)
01619304
Method for modifying surfaces with ultra thin films

15/6/2 (Item 2 from file: 348)
01482321
Method for modifying surfaces with ultra thin films

15/6/3 (Item 3 from file: 348)
01421107
Composition with film forming alkylsilsesquioxane polymer and method for applying hydrophobic films to surfaces

15/6/5 (Item 5 from file: 348)
01098712
Method for modifying surfaces with ultra thin films

15/6/6 (Item 6 from file: 348)
00934595
Optical fiber clad with low refractive index photocured composition

15/6/7 (Item 7 from file: 348)

00926088
Method for modifying surfaces with ultra thin films

15/6/8 (Item 1 from file: 349)
00877571
COATING COMPOSITIONS COMPRISING SILYL BLOCKED COMPONENTS, COATINGS, COATED SUBSTRATES AND METHODS RELATED THERETO

15/6/9 (Item 2 from file: 349)
00776872
COATING COMPOSITIONS HAVING IMPROVED SCRATCH RESISTANCE, COATED SUBSTRATES AND METHODS RELATED THERETO

15/6/10 (Item 3 from file: 349)
00775854 **Image available**
COATING COMPOSITIONS HAVING IMPROVED SCRATCH RESISTANCE, COATED SUBSTRATES AND METHODS RELATED THERETO

15/6/11 (Item 4 from file: 349)
00775845 **Image available**
CURED COATINGS HAVING IMPROVED SCRATCH RESISTANCE, COATED SUBSTRATES AND METHODS RELATED THERETO

15/6/12 (Item 5 from file: 349)
00506353 **Image available**
BLOCK POLYMER PROCESSING FOR MESOSTRUCTURED INORGANIC OXIDE MATERIALS

15/6/13 (Item 6 from file: 349)
00238661
SELF-ASSEMBLED OPTICAL MEDIA

15/6/14 (Item 7 from file: 349)
00232737
METHOD AND COMPOSITION FOR APPLYING THIN FILMS OF AMPHIPHILIC MOLECULES TO

15/3,AB,K/4 (Item 4 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01134553
Hydrophobic thim films on magnesium fluoride surfaces
Hydrophobe Duennfilme auf Magnesiumfluorid-Oberflaechen
Films minces hydrophobes sur des surfaces de fluorure de magnesium
PATENT ASSIGNEE:
nanoFILM, Ltd., (2564360), 10111 Sweet Valley Drive, Valley View, OH 44125-4250, (US), (Applicant designated States: all)
INVENTOR:
Singh, Brij P., 13010 Morning Star Drive, North Royalton, Ohio 44133,(US)
Arora, Pramod K., 5144 Pinckneya Drive, North Royalton, Ohio 44133, (US)
LEGAL REPRESENTATIVE:
Mallalieu, Catherine Louise et al (69621), D. Young & Co., 21 New Fetter Lane, London EC4A 1DA, (GB)
PATENT (CC, No, Kind, Date): EP 990925 A1 000405 (Basic)
APPLICATION (CC, No, Date): EP 99307716 990930;
PRIORITY (CC, No, Date): US 164489 981001
DESIGNATED STATES: DE; FR; GB; IT
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: G02B-001/10; G02B-001/11; C03C-017/42

ABSTRACT EP 990925 A1

A magnesium fluoride surface having a thin film of **amphiphilic** molecules bonded thereto by way of a primer film of a metal oxide having a surface that hydrolyzes on exposure to airborne moisture. The **amphiphilic** molecules are chemically bonded to hydroxy groups on the hydrolyzed surface of the metal oxide primer film.

ABSTRACT WORD COUNT: 53

NOTE: Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200014	1020
SPEC A	(English)	200014	2661
Total word count - document A			3681
Total word count - document B			0
Total word count - documents A + B			3681

...SPECIFICATION embodiments of the invention and not for purposes of limiting same, Figure 1 shows a **substrate** in the form of a **glass** lens 10 having a surface 12 coated with a magnesium fluoride antireflection **coating** 14. A metal oxide primer film 16 is bonded to antireflective **coating** 14 in accordance with the present application, and a hydrophobic thin film 20 of **amphiphilic** molecules is bonded to primer film 16.

The metal oxide film 16 is applied by...

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File 155:MEDLINE(R) 1966-2003/Aug W3
File   5:Biosis Previews(R) 1969-2003/Aug W3
File  73:EMBASE 1974-2003/Aug W3
File  34:SciSearch(R) Cited Ref Sci 1990-2003/Aug W3
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
File 144:Pascal 1973-2003/Aug W2
File   2:INSPEC 1969-2003/Aug W2
File   6:NTIS 1964-2003/Aug W3
File   8:Ei Compendex(R) 1970-2003/Aug W2
File  94:JICST-EPlus 1985-2003/Aug W3
File  95:TEME-Technology & Management 1989-2003/Aug W1
File  99:Wilson Appl. Sci & Tech Abs 1983-2003/Jul
File  35:Dissertation Abs Online 1861-2003/Jul
File  65:Inside Conferences 1993-2003/Aug W3
File  31:World Surface Coatings Abs 1976-2003/Jul
File  96:FLUIDEX 1972-2003/Aug
File 323:RAPRA Rubber & Plastics 1972-2003/Aug
File 315:ChemEng & Biotec Abs 1970-2003/Jul
Set     Items   Description
S1      68601   (FLUOROPOLYMER? OR CERAMIC OR SILICONE OR GLASS)(10N)(BASE-
             ()MATERIAL? ? OR SUBSTRAT??)
S2      37917   AMPHIPHILIC
S3     806017   COATING? ?
S4       8619   ELECTROSURGICAL OR ELECTROSURGERY OR ELECTROSYNERES?S
S5    5797946   SURGERY OR SURGICAL
S6     458782   MEDICAL()(DEVICE? ? OR INSTRUMENT? OR IMPLEMENT? ?)
S7          1   S1 AND S2 AND S3 AND S4:S6
S8        146   S1(S)S2
S9         12   S3(S)S8
S10        11   S9 NOT S7
S11         6   RD (unique items)
S12         1   S11/2003
S13         5   S11 NOT S12
```

7/7,K/1 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

11454774 EMBASE No: 2002026274

Aligned bioactive mesoporous silica coatings for implants

Gomez-Vega J.M.; Sugimura H.; Takai O.; Hozumi A.
J.M. Gomez-Vega, Dept. of Materials Processing Engg., Graduate School of Engineering, Nagoya University, Furo-cho, Chikusa-ku, Nagoya 464-8603 Japan
AUTHOR EMAIL: jose@plasma.numse.nagoya-u.ac.jp
Journal of Materials Science: Materials in Medicine (J. MATER. SCI. MATER. MED.) (Netherlands) 2001, 12/10-12 (923-927)
CODEN: JSMME ISSN: 0957-4530
DOCUMENT TYPE: Journal ; Conference Paper
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 28

Ongoing research is reported aimed at preparing mesoporous silica **coatings** on various substrates for medical applications by a biomimetic approach (self-assembling of organic/inorganic sol-gel systems into ordered structures). Tetraethylorthosilicate (TEOS) was selected as the silica precursor, and **amphiphilic** triblock copolymers poly(ethylene oxide)-poly (propylene oxide)-poly(ethylene oxide), and the cationic surfactant

cetyltrimethyl ammonium chloride (CTAC), as structure-directing agents. The mesochannels diameter could be adjusted by changing the directing agent, and a preferred alignment of the mesostructure was observed independently of the used **substrate** (**glass** , silicon, Ti or Ti6AI4V). Three different treatments (thermocalcination, photocalcination, and solvent extraction) have been also studied to remove the organic templates, of which photocalcination showed to be the most versatile. When soaked in a simulated body fluid, mesoporous silica **coatings** induced apatite formation after seven days. (c) 2001 Kluwer Academic Publishers.
MEDICAL DESCRIPTORS:
*material **coating** ; *implant
SECTION HEADINGS:
027 Biophysics, Bioengineering and **Medical Instrumentation**

13/6/2 (Item 2 from file: 34)
10185661 Genuine Article#: 494KB Number of References: 28
Title: Aligned bioactive mesoporous silica coatings for implants
Publication date: 20010000

13/6/3 (Item 3 from file: 34)
03502377 Genuine Article#: PH648 Number of References: 8
Title: MONOMOLECULAR LAYERS AND THE LANGMUIR-BLODGETT-FILMS BASED ON AMPHIPHILIC MACROCYCLIC NICKEL(II) COMPLEX

13/6/4 (Item 1 from file: 2)
4868591 INSPEC Abstract Number: A9504-7840-009
Title: Monomolecular Langmuir-Blodgett layers and films based on an amphiphilic nickel(II) macrocyclic complex
Publication Date: Jan.-Feb. 1994

13/6/5 (Item 1 from file: 8)
06294149
Mesoporous silica coatings through triblock-copolymer templated processing
Conference Title: Proceedings of the Second International Conference on Processing Materials for Properties
Publication Year: 2000

13/7,K/1 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

10268468 Genuine Article#: 505GZ Number of References: 40
Title: Spin casted mesoporous silica coatings for medical applications
Author(s): Gomez-Vega JM (REPRINT) ; Iyoshi M; Kim KY; Hozumi A; Sugimura H ; Takai O
Corporate Source: Nagoya Univ,Grad Sch Engn, Dept Mat Proc Engn, Chikusa Ku,Furocho/Nagoya/Aichi 4648603/Japan/ (REPRINT); Nagoya Univ,Grad Sch Engn, Dept Mat Proc Engn, Chikusa Ku,Nagoya/Aichi 4648603/Japan/; Natl Ind Res Inst Nagoya,Kita Ku,Nagoya/Aichi 4628510/Japan/
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Abstract: Self-assembling organic/inorganic sol-gel systems were used to prepare mesoporous silica **coatings** that can qualify for medical applications. The cationic surfactant cetyltrimethyl ammonium chloride (CTAC) or an **amphiphilic** triblock copolymer were utilized as

templates or structure-directing agents, and tetraethylorthosilicate (TEOS) as the silica precursor. Thin films could be applied on different **substrates** (**glass** , silicon, and titanium) by spin casting of the sol-gels. X-Ray diffraction analyses indicated that well ordered hexagonally packed mesostructures with unit cells of 3 and 13 nm, when CTAC and triblock copolymer were used, respectively, could be fabricated. Parameters such as CTAC/TEOS molar ratio and gel formation time highly affected the resulting structure, so the optimum values were established. A competition occurs between the formation of cylindrical mesochannels on the substrate and homogeneous nucleation of the silica in the sol-gel solution to form spherical particles. Therefore, a growing presence of silica particles on the spin casted **coatings** happens as the gel formation time is increased above similar to 60 s, which results in poorer mesoporous films. When a triblock copolymer was used as template, a preferred alignment of the mesostructure was observed independently of the substrate. The removal of the organic template to hollow the pores was accomplished by photocalcination (selective ultraviolet irradiation). The resulting mesoporous silica **coatings** were able to induce apatite formation after 1 week of immersion in a simulated body fluid in physiological conditions, which is a sound indication of a bioactive behavior when tested in vivo. These results indicate that the **coatings** prepared by the methodology described in this work may be valid candidates to be used on implants.

File 98:General Sci Abs/Full-Text 1984-2003/Jul
File 9:Business & Industry(R) Jul/1994-2003/Aug 20
File 16:Gale Group PROMT(R) 1990-2003/Aug 20
File 160:Gale Group PROMT(R) 1972-1989
File 148:Gale Group Trade & Industry DB 1976-2003/Aug 20
File 441:ESPICOM Pharm&Med DEVICE NEWS 2003/Aug W3
File 621:Gale Group New Prod.Annou.(R) 1985-2003/Aug 20
File 149:TGG Health&Wellness DB(SM) 1976-2003/Aug W1
File 636:Gale Group Newsletter DB(TM) 1987-2003/Aug 20
File 20:Dialog Global Reporter 1997-2003/Aug 21
File 444:New England Journal of Med. 1985-2003/Aug W4
File 369:New Scientist 1994-2003/Aug W2
File 370:Science 1996-1999/Jul W3
File 624:McGraw-Hill Publications 1985-2003/Aug 20

Set	Items	Description
S1	13262	(FLUOROPOLYMER? OR CERAMIC OR SILICONE OR GLASS)(10N)(BASE-()MATERIAL? ? OR SUBSTRAT??)
S2	1004	AMPHIPHILIC
S3	306154	COATING? ?
S4	4340	ELECTROSURGICAL OR ELECTROSURGERY OR ELECTROSYNERES?S
S5	768348	SURGERY OR SURGICAL
S6	275048	MEDICAL()(DEVICE? ? OR INSTRUMENT? OR IMPLEMENT? ?)
S7	**1**	**S1(S)S2(S)S3**
S8	4	S1(S)S2
S9	0	S4:S6 AND S8
S10	3	S8 NOT S7
S11	**3**	**RD (unique items)**

7/3,AB,K/1 (Item 1 from file: 370)
DIALOG(R)File 370:Science

00508685
Nanophase-Separated Polymer Films as High-Performance Antireflection Coatings
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Abstract: Optical surfaces coated with a thin layer to improve light transmission are ubiquitous in everyday optical applications as well as in industrial and scientific instruments. Discovered first in 1817 by Fraunhofer, the coating of lenses became standard practice in the 1930s. In spite of intensive research, broad-band antireflection coatings are still limited by the lack of materials with low refractive indices. A method based on the phase separation of a macromolecular liquid to generate nanoporous polymer films is demonstrated that creates surfaces with high optical transmission.
...Text: of devices for which maximum light transmission is required (such as solar cells). Antireflection (AR) **coatings** reduce the intensity of reflection and increase the quality of optical lens systems. The basic principle of optical **coatings** can easily be understood as follows (B1) .

The reflected light from the air-film and...
...Although condition (ii) can be easily met, condition (i) poses a problem: Refractive indices for **glass** and transparent plastic **substrates** are approximate equal to 1.5, therefore requiring that n.inf(f) approximate equal to...
...lowest refractive indices for dielectrics are on the order of 1.35, single-layer AR **coatings** cannot attain this value. For broad-band AR **coatings** , a sequence of layers is needed that have refractive indices varying stepwise from n.inf...
...pores in order to achieve the refractive indi ces needed for a broad-band AR **coating** . The idea to use nanoporous films as AR **coatings** is not new. Indeed, the etching procedure described by Fraunhofer in 1819 to tarnish glass is based on this principle (B1) (B2) . More modern approaches include sol-gel derived **coatings** (B3) and patterned surfaces with submicrometer gratings (B4) (B5) . High-performance **coatings** , tailored to the varying requirements of different applications, require films whose thickness and refractive indices...
...low refractive indices (n.inf(f) <= 1.1) are needed for high-performance multilayer AR **coatings** . ...
...We present here a general procedure for creating nanoporous polymer films for use as AR **coatings** . Our technique is based on the demixing of a binary polymer blend during spin **coating** (B6) (B7) (Fig. 1B). As prepared, the polymer film typically exhibits a lateral phase morphology... 3A, line). For comparison, an uncoated glass slide (Fig. 3A, squares) and a conventional AR **coating** , consisting of 99-nm-thick magnesium fluoride (MgF.inf(2)) layers (n.inf(f) = 1.381), are shown. The polymer AR **coating** increases the optical transmission through the glass slide (averaged from 400 to 680 nm) from...
...A major advantage of our approach is its versatility. For AR **coatings** , the ability to fine-tune n.inf(f) and layer thickness are of high priority...
...max) = 4n (script-1)), a simple variation of the layer thickness (by varying the spin- **coating** speed) adjusts the location of (lambda) .inf(max) (Fig. 3B). More important, however, is the...
...low-refractive-index films in Fig. 4 are too thin to be suitable as AR **coatings** . An increase in film thickness leads to larger PS-PMMA domain sizes (B6) and therefore to more scattered light. This effect can be suppressed by adding small amounts of **amphiphilic** molecules (PS-PMMA diblock copolymer) to the solution (B14) . A nanoporous film with n.inf...
...reflection of light. The transmission spectrum in Fig. 3A (diamonds) shows a broad-band AR **coating** of outstanding quality with a transmission of 99.7% averaged over the entire visible spectrum...
...polymers: A homogeneous polymer film with n.inf(f) = 1.36 (that is, an amorphous **fluoropolymer**) is first deposited on the **substrate** and is then covered by a nanoporous polymer layer. Because **fluoropolymers** are not soluble in the solvents we used, the AR **coating** can be prepared in a repeated spin- **coating** process...
...sizes are smaller than the wavelength of light, and the porous films are effective AR **coatings** . The improvement in the light transmission of a few percent per air-glass interface may...20 glass surfaces is considerable. Although the general strategy of using porous films as AR **coatings** is well established, optimized two-and three-layer **coatings** (n approximate equal to 1.12 for two layers and n approximate equal to 1...
...solvents, it will be possible to create multilayers consisting entirely of polymers in repeated spin- **coating** runs...
...Although the AR **coatings** made from model polymers (PMMA) are not wear-resistant, this is not a major limitation...

...inorganic hybrid materials allows one to replicate the nanoporous polymer films (B15) into mineralized AR **coatings** with extremely low refractive indices...
...film. Initially, both polymers (black and gray) and the solvent form one phase. During spin- **coating** , phase separation sets in, and after evaporation of the solvent a lateral phase morphology is...
...microscope glass slides that were covered on both sides with AR layers. (A) The nanoporous **coating** from Fig. 2B (circles) exhibits a light transmission of >99.95% at (lambda) = 534 nm...
...and thickness (script-l) = 106 nm. In comparison, a 99-nm-thick MgF.inf(2) **coating** with n.inf(f) = 1.381 (triangles) and an uncoated glass slide (squares) are shown. A broad-band AR **coating** is obtained when the MgF.inf(2) layers are coated with a nanoporous polymer film...
...1.14 and (script-l) = 115 nm (diamonds) (B14) . The slide with this double-layer **coating** exhibits a transmission of >99.7% averaged over the visible wavelengths (vertical lines). (B) Slides...

11/8/3 (Item 2 from file: 370)

00505535 (USE 9 FOR FULLTEXT)
Self-Assembled Aggregates of Rod-Coil Block Copolymers and Their Solubilization and Encapsulation of Fullerenes
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